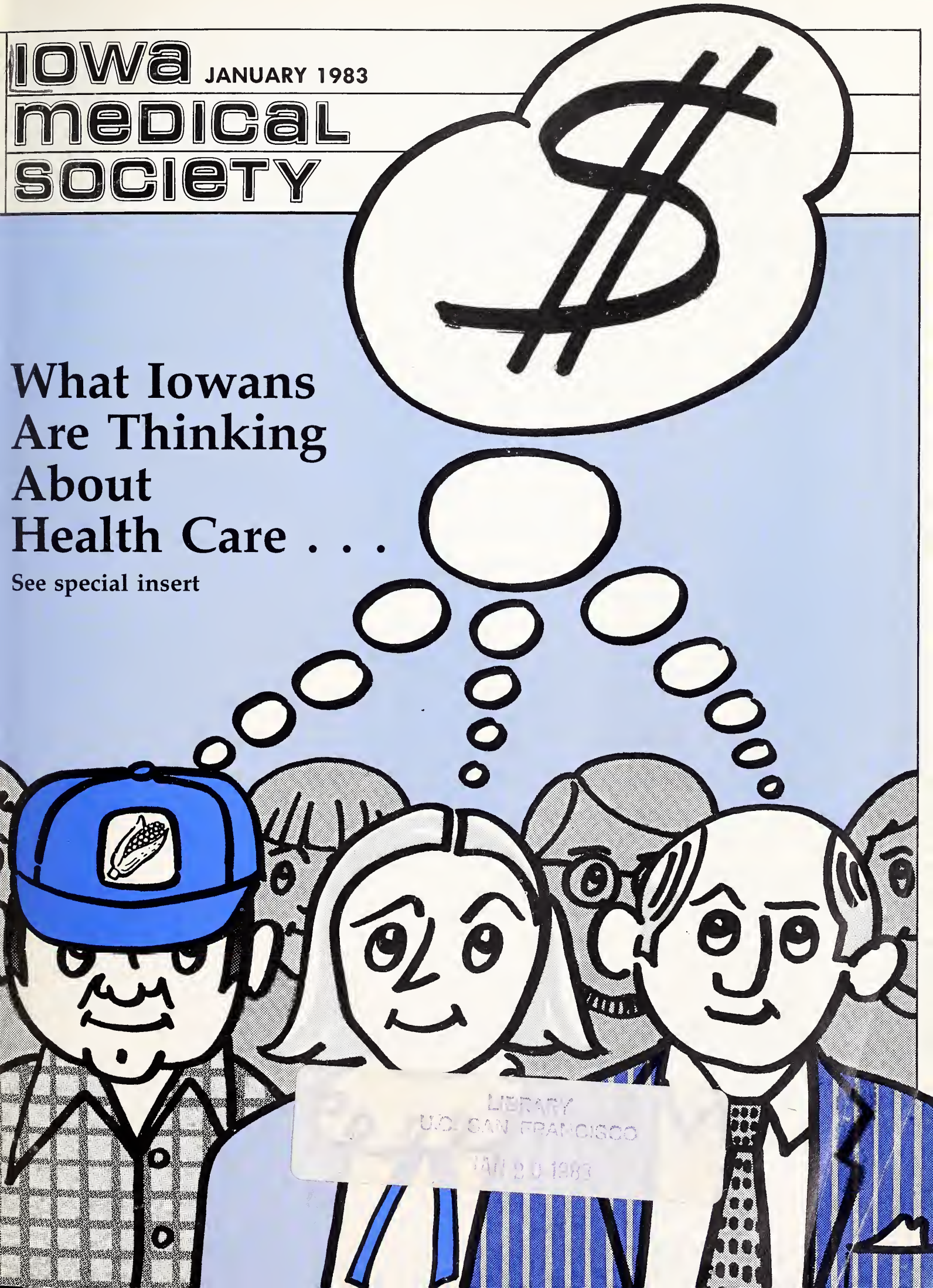
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JANUARY 1983

What Iowans Are Thinking About Health Care . . .

See special insert



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JOURNAL OF THE IOWA MEDICAL SOCIETY

JANUARY 1983/VOLUME 73 NUMBER 1

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ABOUT THE COVER — Our cover this month is a graphic introduction to a special 8-page insert in this issue which summarizes a late 1982 survey of Iowans as to their thinking on various health care topics. The IMS/AMA survey compares the opinions of Iowans with a national sample.

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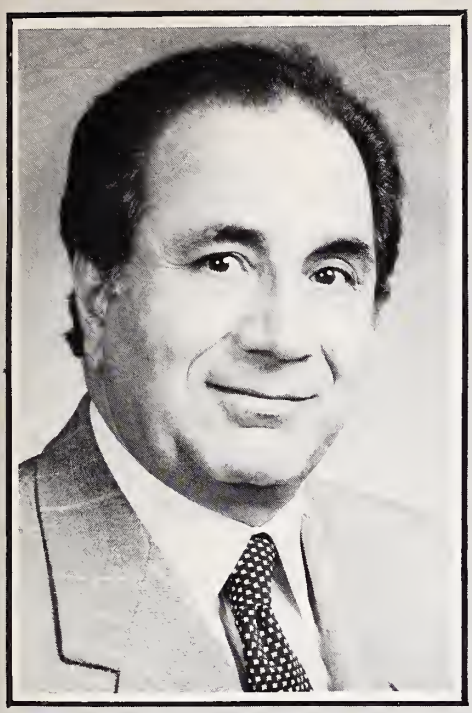
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PRESIDENT'S PRIVILEGE

THERE ARE SOME historic notes attached this month to the opening of the Iowa General Assembly. Our longest sitting governor is being succeeded by the lieutenant governor. This has not happened since 1944.

And for the first time in Iowa history an incoming governor will have both a lieutenant governor and a majority of both legislative chambers from the opposition party. Moreover, there will be 38 freshman representatives (28 Democrats and 10 Republicans). Of the experienced representatives, 13 (9 Republicans and 4 Democrats) will change for the first time from majority to minority positions and vice versa.

General Assembly leadership will be experienced and competent. In the Senate, leaders of the past eight years (Lowell Junkins and Cal Hultman) continue in their party's top positions; importantly, however, they trade majority and minority designations. There are only 3 brand new senators; the others were either reelected from the Senate, moved over from the House of Representatives, or continued as incumbents.

Hopefully, the 1983 lawmakers will be open to input on issues coming before them. In our case, the key health care topics will center on cost. The cutting of costs to the detriment of quality is to be feared and must be approached with caution.

The IMS Legislative Committee met in December with representatives from several medical specialty groups to review anticipated legislation. Recommendations from that session will go to the Board of Trustees and to the IMS Executive Council this month.

Elsewhere in this issue, Dr. Clarence Denser, chairman of the IMS Legislative Committee, comments on what may be ahead this year in the General Assembly.

Legislative activity occurs slowly at times; on occasion it takes rapid and unexpected turns. The Iowa Medical Society has a duty to serve the public and the profession in following health care issues. We need to be, and we are, well represented. In a real sense, however, this representation is only as good as we make it individually, by staying informed and by exercising our unassailable right to express our views to our elected officials. Join me in doing this in 1983!

H. Rassekh

Hormoz Rassekh, M.D.
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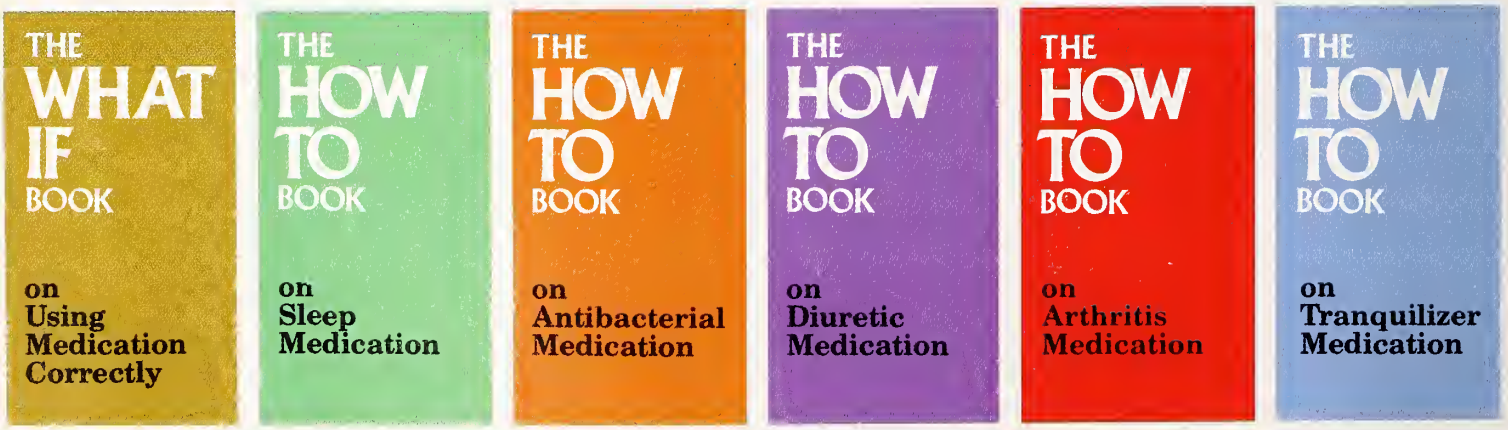
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THINGS YOU SHOULD KNOW

CLINTON MARKS MILESTONE

The Clinton County Medical Society observed its 125th anniversary November 23 with a special celebration. The CCMS was formed in 1857 and was one of 6 county societies at the time. Membership has grown from the original 9 physicians to 56 currently. The society has provided leadership in building and expanding the 3 hospitals in Clinton County. Guy Robbins, M.D., originally of Clinton, and now of New York City, was guest speaker at the anniversary dinner. Other program participants were G.T. Schmunk, M.D., M.B. Emmons, M.D., and M.E. Barrent, M.D., all of Clinton.

IFMC REVIEW REVISIONS

Certain delegation criteria have been revised by the Iowa Foundation for Medical Care to "clarify expectations of local review programs and strengthen local peer review." So says the current IFMC newsletter where reference is made to standards established for peer reviewers and utilization review coordinators. The standards will help assess URC performance and the local peer review processes. Copies of this material have been sent to UR chairmen, chiefs of staff, administrators, UR coordinators and board chairmen.

CONCERN PROGRAMS

Reports have reached IMS headquarters about temporary programs in various counties to help unemployed persons and families obtain necessary medical services. While help of this nature is traditional with most physicians, stepped-up local activity is being pursued in such county societies as Dubuque, Pottawattamie-Mills, Linn and Delaware. This kind of effort is advocated in the IMS 82/83 Iowa Physician Concern Program.

LINN COUNTY IDEA

The Linn County Medical Society has prepared an informational folder listing primary care physicians accepting new patients. The folder, prepared cooperatively with the Cedar Rapids Hospital Council, encourages local residents to choose and establish contact with a primary care doctor in a time of good health.

HONOR FOR DEAN ECKSTEIN

The sixth floor research area of the new U. of I. Cardiovascular Center has been named the John W. Eckstein Cardiovascular Research Wing to honor Dr. Eckstein, who has been dean of the College of Medicine since 1970. Having held various important posts in the American Heart Association, Dr. Eckstein was its president in 1979.

IMS TO BE AMICUS CURIAE

The right of a physician to decline to serve as an expert witness in a malpractice case is being supported by the IMS Board of Trustees. The IMS will join the U. of I. College of Medicine as "amicus curiae" in the appeal of a case to Iowa Supreme Court.

RISK MANAGEMENT PROTOCOL

A new and stepped-up risk management strategy will be initiated in 1983 under the IMS/Aetna Liability Insurance Program. Procedures have been set whereby insured physicians incurring certain numbers or levels of claims will receive personal contacts from members of the IMS Medico-Legal Committee.

HEALTH VOTE 82 OVER

Leaders of the now-completed Polk County Health Vote 82 project have expressed gratification over the public participation in this concentrated and experimental awareness program. Citizen ballots returned in December exceeded expected levels by a substantial number.

CME CREDIT

Antibiotic Usage Study

RONALD REIDER, M.D.,
RICHARD M. CAPLAN, M.D.,
STANLEY W. GREENWALD, M.D.,
CHARLES E. DRISCOLL, M.D., and
JENNIFER I. COFER, M.A., R.R.A.

IN 1979, THE IOWA FOUNDATION for Medical Care (IFMC) sponsored a shared medical care evaluation (MCE) study of antibiotic use in 99 Iowa hospitals ranging in size from 20 to 540 beds. Developed by the IFMC Continuing Medical Education (CME) Committee, the study sought to assess the appropriateness and cost effectiveness of antibiotic therapy in the hospitals. Because previous IFMC shared studies of bacterial pneumonia[1] and abdominal hysterectomies[2] demonstrated inconsistent practices in prescribing antibiotics, the CME Committee decided to do a thorough review of antibiotic use. The study included 1,336 physicians and 4,867 patients.

Several of the study criteria, which are based on newer data about drug interactions and their adverse effects, are considered controversial by some physicians and prompted discussions among study participants. Participating hospitals reviewed the records of all or the first 100 patients of both sexes who were given antibiotics during July, 1979. The 8 criteria and results with discussions follow.

The physician authors are members of the Continuing Medical Education Committee of the Iowa Foundation for Medical Care.

This is the sixth in a series of Continued Education/Shared Reports. It is based on a shared medical care evaluation (MCE) study of antibiotic use in 99 Iowa hospitals ranging from 20 to 540 beds. The goal was to assess the appropriateness and cost effectiveness of inpatient antibiotic therapy.

You will find a special two-page insert with this report. It is a 10-question quiz. By completing and mailing it with $3 to the Iowa Foundation for Medical Care you may earn one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association. The quiz will be evaluated and returned to you with appropriate comments.

This education project is a joint service of the Foundation, University of Iowa College of Medicine and the Iowa Medical Society.

Additional appreciation is extended to Michael J. Richards, M.D., Harold A. Van Hofwegen, M.D., and George H. West, Jr., M.D.

Criterion 1 — Antibiotics should not be used therapeutically unless a gram stain, culture, biopsy, or specific serologic study is conducted.

A diagnostic workup for an infection's etiology is essential except in a few instances such as erysipelas and acne. The committee expected physician review to note instances in which diagnosis was not necessary and, therefore, did not provide a list of exceptions.

There were 1,423 variations (30%) from this criterion; 526 were identified as deficiencies.

The deficiency rate of more than 10% is meaningful because of the expense, side effects, and development of organisms resistant to antibiotics.[3, 4, 5]

Forty-five reasons were given for the nearly 900 justified variations from this criterion. More than 40 justifications cited difficulty in obtaining accurate cultures but gave no further explanation. Over 100 justifications were attributed to committee consensus without clarification. The number of deficiencies and reasons for justification of variations indicate physicians must be encouraged to order gram stain, culture, biopsy, or specific serologic studies before instituting therapeutic antibiotics. Continuing medical education activities on appropriate antibiotic use could help change physicians' prescribing habits.

Criterion 2 — Antibiotic use should be appropriate to culture and sensitivity reports.

Although many criteria can determine the appropriateness of antibiotic therapy, the CME committee chose one: The antibiotic selection should be appropriate to culture and sensitivity report with consideration given to the patient's clinical response to the initial antibiotic.

There were 2,169 variations (44%) from this criterion and 690 were considered deficiencies. Of the approximately 1,500 justifications, no reason was given in 157 cases, and in almost 250 cases, the antibiotics chosen were justified clinically without clarification.

To assure effective antibiotic therapy, physicians must review culture and sensitivity reports on obtained specimens and must adjust antibiotics appropriately while noting the clinical response to the initial antibiotic.

Criterion 3 — Documentation of patient's allergies upon admission.

There were only 66 variations (1%) from this criterion and only 34 were judged deficiencies. Of the 32 justifications, eight involved comatose, unaccompanied patients.

This criterion demonstrates excellent medical practice by Iowa hospitals and physicians and shows that careful documentation can be accomplished through cooperation between physicians and nurses. Every patient in every hospital should be asked about drug allergies by either the attending physician or admitting nurse as a matter of routine. When the patient cannot answer, every effort must be made to get the information from a responsible friend or family member. Patients with documented drug allergies should be encouraged to wear medical alert bracelets.

Criterion 4 — BUN or serum creatinine should be measured within 24 hours of a drug order and at least twice weekly while the patient is receiving gentamicin, tobramycin, or kanamycin.

On this criterion, there were 328 variations, or a rate of approximately 6%, and 112 of the variations were considered deficiencies. Of the over 200 justifications, no reason was given in 54 cases (therapy was for only 1 to 3 days in 40 instances) and clinical justifications were not explained in 15 cases.

Aminoglycoside antibiotics can cause nephrotoxicity and ototoxicity. Patients receiving these drugs should be monitored for evidence of renal failure by BUN *and* creatinine determinations, which should ideally be followed with serum antibiotic levels. Despite the criterion, BUN levels, which are influenced by factors other than renal function, are insufficient to monitor aminoglycoside treatment.

The importance of monitoring patients on aminoglycoside antibiotics cannot be over emphasized. One study showed the prevalence of ototoxicity and nephrotoxicity in patients receiving gentamicin was approximately 2%; 34% of those patients with gentamicin ototoxicity had irreversible damage.[6] Aminoglycosides are often used in critically ill patients even though a study done in intensive care units showed 36% of patients receiving gentamicin, 23% receiving tobramycin, and 25% receiving amikacin had

CME/SSR
No. 6 in a Series

nephrotoxicity.[7] Physicians must understand the potential toxicity of aminoglycoside antibiotics, use them only when absolutely necessary, and monitor renal, vestibular, and auditory status.

Criterion 5 — Aminoglycosides and cephalosporins given concurrently; physician's progress notes state he/she is aware of the risk and elects to use the combination.

Recent studies show use of aminoglycosides (concurrently) with cephalosporins may increase the risk of nephrotoxicity.[8] This dictates against concomitant use except in Klebsiella pneumoniae infections or in presumed septicemia where organisms are thought to be sensitive to aminoglycosides and cephalosporins. The *Lancet* reported the incidence of nephrotoxicity from combined use of aminoglycosides and Keflin to be 30%.[9]

There were 149 variations (3%) for this criterion, and 65 were deficiencies. Sixty of the 84

justified variations were passed with the statement "handled appropriately" or without explanation. The Continuing Medical Education Committee suggests that physicians exercise great care in choosing the clinical situations in which aminoglycosides and cephalosporins are given concurrently. A progress note should explain the choice of antibiotics.

Criterion 6 — Prophylactic antibiotics should not be given longer than 72 hours after surgery.

There were 816 variations (16%) with approximately 150 justifications. Thirty-one justifications were because the surgeon believed the patient should be on prophylactic antibiotics longer than 72 hours, and in approximately 100 instances, no explanation was given. Extensive prophylactic surgical antibiotic use studies show it is important to use a narrow spectrum antibiotic, give the first dose before surgery, and discontinue the antibiotic within 24 to 72 hours after surgery.[10, 11] One study estimated that discontinuing prophylactic antibiotics 48 hours after surgery would reduce by 20% the use of all antimicrobial drugs in hospitals.[12]

The IFMC Continuing Medical Education Committee strongly encourages education programs dealing with perioperative use of prophylactic antibiotics.

Criterion 7 — Multiple antibiotics

Concurrent use of multiple antibiotics is not indicated or cost effective except in a few instances. Gentamicin and carbenicillin used concomitantly for pseudomonas septicemia would be acceptable, as would ampicillin and chloramphenicol, in a patient with bacterial meningitis pending the culture report. Penicillin plus an aminoglycoside for enterococcal endocarditis and trimethoprim-sulfa combinations for urinary tract infections is also acceptable.

There were 467 variations (10%) and 186 deficiencies. More than 130 of the justified variations were not explained by the local review committee. Rehal recommended that antibiotic combinations not be given unless a single drug therapeutic result is known to be or has been demonstrated to be unsatisfactory in an individual patient. The unfavorable effects of combined antibiotic therapy other than antagonism include greater suppression of bacterial flora, increased probability or secondary infection, and increased adverse reactions.[13]

Criterion 8 — A patient and/or another responsible individual instructed that a patient is allergic to a drug if a reaction occurs.

There were 39 variations of this criterion with 26 deficiencies. Most of the 13 justifications were reasonable, and Iowa physicians and hospitals should be pleased with their performance on this criterion.

An additional method of documentation would be to note the allergy on the problem list if the problem-oriented medical record is used.

CONCLUSION

Iowa physicians need additional continuing medical education in several specific areas of antibiotic use:

1) The importance of obtaining appropriate studies before antibiotics are started.

2) Proper selection of antibiotics once culture results are known.

3) Monitoring patients receiving aminoglycosides.

4) Specific indications and protocols for surgical prophylactic antibiotics.

5) Proper use of antibiotic combinations.

It is also evident from this shared study that many hospital audit committees do not use (the technical terms of audit) deficiency, justification, exception, and variation properly. The information gained from shared studies would more accurately reflect the quality of medicine practiced in Iowa if local review committee members better understood the audit process.

CME/SSR
No. 6 in a Series

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ANTIBIOTIC USAGE STUDY QUIZ

Continuing Medical Education Credit

This learning experience is intended for all Iowa physicians. When the learner has read the preceding article, he/she will have basic information on antibiotic usage.

One hour of continuing medical education credit (AMA Category I) is offered to those who read this article and answer the questions. Please answer the questions and submit them with the information requested. Simply (1) check the correct answers; (2) enter the information requested; (3) remove this page from the JOURNAL; (4) prepare a check for $3 to cover administrative costs and make payable to the University of Iowa; and (5) mail the quiz and check to the Iowa Foundation for Medical Care, Colony Park, Suite 500, 3737 Woodland Avenue, West Des Moines, Iowa 50265. You will be provided a report on your quiz and a confirmation of the CME credit.

As an organization accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the University of Iowa College of Medicine designates this CME activity as meeting the criteria for one credit hour in Category I for education materials for the Physician's Recognition Award of the American Medical Association provided it has been completed according to the instructions.

PLEASE ANSWER THE FOLLOWING QUESTIONS (Choose the one best answer)

1. A patient receiving systemic aminoglycoside antibiotics should have serum BUN and creatinine measured:
 - ☐ A. Only if the patient has renal failure
 - ☐ B. At least twice weekly
 - ☐ C. Only at the initiation of therapy
 - ☐ D. Only at the initiation and termination of therapy
2. Toxicity of aminoglycoside antibiotics includes:
 - ☐ A. Ototoxicity and nephrotoxicity
 - ☐ B. Only ototoxicity
 - ☐ C. Only nephrotoxicity
 - ☐ D. No significant toxicity in critically ill patients
3. An appropriate indication for the concurrent use of aminoglycosides and cephalosporin is:
 - ☐ A. Klebsiella pneumoniae infections
 - ☐ B. A very sick febrile patient
 - ☐ C. A sick patient allergic to penicillin
 - ☐ D. There is no appropriate indication for using concurrent aminoglycosides and cephalosporins
4. In questioning a patient concerning drug allergies, which is the best procedure to follow?
 - ☐ A. The physician should ask the patient
 - ☐ B. The nurse should ask the patient
 - ☐ C. If the patient is unresponsive, forget about it
 - ☐ D. The physician and nurse should question the patient and family or friends if necessary

5. In using perioperative prophylactic antibiotics, which of the following is the best principle to follow?
 - ☐ A. Use them for as long a period as clinically required
 - ☐ B. Two antibiotics are always better than one
 - ☐ C. Use a broad spectrum antibiotic
 - ☐ D. They should be continued no longer than 72 hours after surgery

6. If all perioperative prophylactic antibiotics were discontinued 48 hours after surgery, then:
 - ☐ A. The pharmaceutical companies would go out of business
 - ☐ B. There would be high post-surgical infection rates
 - ☐ C. There would be approximately 20% reduction in hospital antibiotic usage
 - ☐ D. Patients would be more likely to acquire nosocomial infections

7. Regarding the current use of multiple antibiotics, which of the following statements is most accurate?
 - ☐ A. If one is good, two or more must be better
 - ☐ B. A second antibiotic competes with the first, thereby reducing the probability of a drug reaction
 - ☐ C. There is increased probability of secondary infection
 - ☐ D. Don't administer more than one by the intravenous route

8. One reasonable antibiotic combination is:
 - ☐ A. Penicillin and tetracycline for pneumococcal pneumonia
 - ☐ B. Gentamicin and carbenicillin for pseudomonas septicemia
 - ☐ C. Penicillin G and erythromycin for urinary tract infection
 - ☐ D. Trimethoprim-sulfa combination for enterococcal endocarditis

9. The antibiotic study showed that:
 - ☐ A. Iowa physicians understand the proper use of perioperative prophylactic antibiotics
 - ☐ B. Some physicians need to monitor renal function more carefully on patients receiving aminoglycoside antibiotics
 - ☐ C. Antibiotics are too expensive
 - ☐ D. In most cases too low an antibiotic dose was administered

10. This Antibiotic audit:
 - ☐ A. Sets standards of care for Iowa physicians
 - ☐ B. Satisfied the requirements of bureaucrats in the IFMC and at the Department of Health and Human Services
 - ☐ C. Gives information about antibiotic usage in Iowa and points out specific areas where additional continuing medical education might be useful
 - ☐ D. Showed that gentamicin and tobramycin should be used concurrently in pseudomonas septicemia if the patient was immunologically compromised

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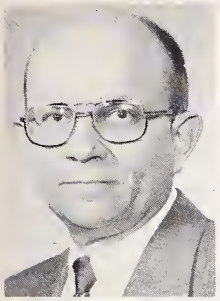
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QUESTIONS - ANSWERS

Clarence H. Denser, Jr., M.D.
Des Moines, Iowa

NEW LEGISLATIVE SESSION

A new session of the Iowa General Assembly convenes January 10. A new Iowa governor is also taking office. Their joint concerns will center on the complex monetary issues of the day. The chairman of the IMS Committee on Legislation comments briefly here on what is ahead in Iowa government generally and also what health care matters will be addressed in the coming months.

How will 1982 election results affect the upcoming session?

The 70th biennium of the Iowa General Assembly will be dramatically different from the previous one. Thirty-eight members of the House have never served in the legislature before. In contrast, with the exception of three newly elected lawmakers, the Senate will consist of veteran legislators who have served previously in either the House or Senate. Both the House and Senate will be controlled by the Democrats for the first time in 4 years. However, the Democratic leadership in both chambers is experienced and skilled. And a Democratic lieutenant governor will also preside over the Senate for the first time since 1967.

What appear to be the key legislative issues in the coming months?

The chief issues to be considered by the 1983 session of the Iowa General Assembly will certainly revolve around state finances. The challenge will be finding or raising sufficient funds to support the state budget.

What will be the chief issues of interest to the Iowa Medical Society?

There will be considerable discussion of health care costs. A joint interim committee of the General Assembly has already made some specific recommendations to the full legislature in this area. On the positive side, the Society will seek legislation to require approved passenger restraints for children riding in automobiles and adequate appropriations for the Iowa Medicaid Program and the U. of I. College of Medicine. It is expected that efforts will be made by allied and paraprofessionals to expand their practice acts and also to have third party coverage mandated for their services.

Other issues likely to be considered include efforts to allow hospitals to employ physicians and to require dispensing physicians to personally supervise delegated dispensing functions.

How are these concerns of the IMS evaluated and prioritized?

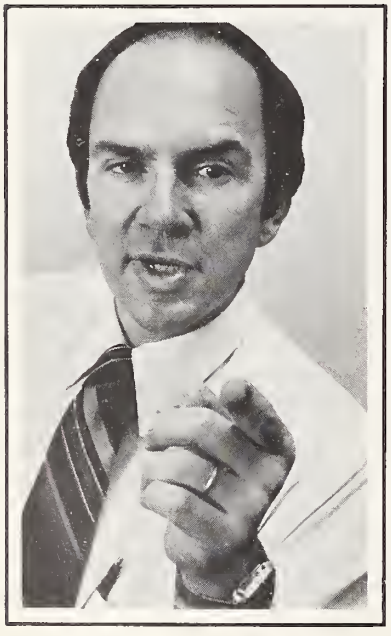
Policy on various issues is determined by the House of Delegates. Between sessions of the House, the Executive Council assumes a policymaking role. In December each year the Committee on Legislation meets to consider issues likely to come before the Assembly in the coming year. Time is taken to discuss existing and new policies of the Society. The committee then recommends a set of legislative priorities to the Board of Trustees and Executive Council for approval.

How is the Society's legislative program implemented?

The Society is represented at the legislature by IMS legislative counsel. There are 2 attorney/lobbyists who are at the legislature every day it meets. Their work is coordinated by IMS staff and closely supervised by the chairman of the Society's Legislative Committee and the

(Please turn to page 16)

"How am I supposed to control health care costs if you can't?"



■ The answer is simple. You can't. At least, not alone. Neither can we. Alone.

The answer lies in *cooperative* involvement.

That's why we've helped establish — or in many cases helped fund — several groups whose objectives are to improve Iowa's health care delivery system, and find ways to provide quality health care at an affordable cost.

These groups include the Governor's Commission on Health Care, Iowa Business Labor Coalition, Iowa Voluntary Cost Containment Committee, Health Policy Corporation of Iowa, and others.

We continue to pursue cost containment efforts with the Iowa Medical Society, the Iowa Hospital Association, and other groups.

You can help, too. By using Iowa's health care system as wisely as possible.

That means utilizing outpatient services whenever medically appropriate.

It means getting involved in local community health planning efforts.

And it means taking better care of yourself.

Working together, we *can* have an impact on the cost of health care in Iowa.

But it won't happen overnight. And it won't be easy. Because changing habits never is.

To learn what more we're doing to control costs — and what more you can do — talk to Blue Cross and Blue Shield of Iowa soon.

Blue Cross
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of Iowa
Des Moines/Sioux City

Peripheral Ischemia Secondary To Beta-Blocker Therapy

LOUIS D. RODGERS, M.D.,
KENT C. THIEMAN, M.D., and
CURTIS L. MOSIER, M.D.
Des Moines, Iowa

Three cases are cited to suggest patients using beta-blocking drugs presenting with signs of peripheral ischemia should be considered for drug substitution. This before a more aggressive treatment plan is undertaken.

OVER 31 MILLION prescriptions are written each year for propranolol and nadolol in the United States for the treatment of hypertension, angina pectoris and cardiac arrythmias.[1] Bradycardia, congestive heart failure, hypotension and bronchospasm are among the more commonly recognized side effects of beta-blockade.[5] The problems of Raynauds phenomenon, rest pain and intermittent claudication are less frequently identified because many of the patients requiring beta-blockade therapy do, indeed, have peripheral vascular disease.[3, 4, 6, 8, 10-12]

The increasing number of patients seen in peripheral vascular consultation for ischemic problems related to the use of beta-blocking drugs would suggest that a review of these side effects is appropriate.

The following 3 case reviews represent problems most commonly seen for vascular evaluation.

Raynauds Phenomenon:

An 82-year-old male presented with frequent episodes of intermittent pain and discoloration of his toes. The tips of all toes on his left foot and the fourth toe tip on the right had gangrenous skin changes. Dorsalis pedis and posterior tibial pulses were strong to palpation bilaterally. Digital artery pulses by Dopler exam were biphasic in all digits. The ankle pressures were 235 mm Hg bilaterally with a brachial pressure of 195/90, giving an ankle arm index of 1.21. His medications were furosemide, amitriptyline and nadolol for angina pectoris. Nadolol was discontinued under the management of his family physician and he was free of foot pain in 3 days and the skin of his toes healed in 4 weeks.

Generic — Brand Names:
amitriptyline — Elavil
cyclandelate — Cyclospasmol
furosemide — Lasix
nadolol — Corgard
propranolol — Inderal

Dr. Rodgers is chairman, Department of Surgery, and co-director, peripheral vascular laboratory, Iowa Methodist Medical Center in Des Moines. Drs. Thieman and Mosier are chief surgical residents at IMMC and Broadlawn Medical Center.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF JANUARY 1983

Rest Pain:

A 71-year-old male presented with a history of extreme pain in his feet at rest and at night, even though he slept under an electric blanket. His hands were minimally cyanotic while his feet were extremely cyanotic and quite cold. The brachial pressure was 125/80 while the right ankle pressure was 125 (ankle arm index 1.0) and the left ankle pressure was 100 (ankle arm index 0.8). His right ankle pulses were biphasic by Dopper exam, while the left ankle pulses were monophasic but strong. Current medications for this patient were digoxin, quinidine and propranolol for angina pectoris. Cyclandelate and acetaminophen had recently been prescribed for ischemia and pain, but no change was noted in his symptoms. The propranolol and cyclandelate were discontinued by his cardiologist, maintaining the usual dosage of quinidine and digoxin. He was free of pain and his feet were warm and comfortable in 3 days.

Intermittent Claudication:

A 73-year-old male presented with a history of intermittent claudication involving his buttocks, thighs and calves bilaterally after 2 blocks of walking. He also complained of moderate pain and numbness in his feet at night. He had no signs of chronic ischemia and minimal cyanosis of his feet. His lower extremity resting segmental pressures were not compatible with ischemia at rest. He was exercised on a treadmill at 2 mph on a 10% incline for 5 minutes and post-exercise pressures were unchanged compared to resting pressures, suggesting an absence of significant arterial disease in the lower extremities. His only medication was nadolol for hypertension. The drug was replaced under the supervision of his internist and at one week follow-up he could walk for unlimited distance without discomfort and the foot pain and the numbness at rest had cleared.

Discussion:

The reported incidence of peripheral ischemic side effects associated with the use of beta-blocking drugs varies from 0.5% to 6.0%.[2] These problems are seen in both smokers and non-smokers, and while they occur more frequently in patients with peripheral vascular disease, they commonly occur in patients with no clinical evidence of significant atherosclerosis.[8] Patients presenting with Raynauds phenomenon without cold exposure or non-diabetic patients presenting with rest pain with ankle pressures greater than 60 mm Hg using beta-blocking drugs should be suspected of having side effects from the medication.[7]

The mechanism of peripheral vasoconstriction associated with beta-blocking drugs is not clearly defined. It has been suggested that peripheral ischemia is related to reduced cardiac output, but these side effects are not seen with other drugs that reduce cardiac output such as methyldopa.[6] The most attractive theory is that beta-blockade produces an imbalance between the peripheral alpha and beta function resulting in an unopposed, and therefore, an exaggerated alpha response on small arteries to normal levels of released noradrenalin.[9]

Conclusions:

The findings in the cases presented suggest that patients using beta-blocking drugs who present with symptoms and signs of peripheral ischemia without objective findings that are compatible with their complaints should be considered for drug substitution before extensive vascular evaluation, arteriography or surgery are recommended.

REFERENCES

The references cited with this article are available either from the authors or from the JOURNAL OF THE IOWA MEDICAL SOCIETY.

The Fate of Peer Review: IFMC or Elsewhere?

ROBERT L. MANDSAGER, M.D.
Marshalltown, Iowa

1983 strategies of the Iowa Foundation for Medical Care are summarized by a key officer. Survival of medical peer review demands the interest and participation of Iowa physicians. The alternatives are not good.

IMAGINE FOR a moment that medical peer review in Iowa no longer exists, that physicians, with their specialized knowledge, no longer assess each other's work. Imagine that the end of peer review has not meant the end of medical review, that the system of professional review by peers has simply been replaced by review by those outside the medical profession. Imagine also that decisions affecting quality of care are made by federal government, state government, local government, businesses and insurers — all groups with a great deal more self-interest than vested interest when it comes to medicine.

Unfortunately, the situation is one no longer relegated strictly to the realm of imagination — it is becoming an increasingly distinct possibility. We are in danger of losing control of our profession.

According to the preliminary report of the Governor's Commission on Health Care Costs, "The Commission is of the opinion that the major problem area in the delivery of health services to Iowans is unnecessarily high utilization."

Over utilization is costly in dollars spent on medically unnecessary admissions. Too, it diminishes the services available for medically necessary admissions. It is also costly in terms of the way physicians are seen by the public. The days of giveaway health care benefits by businesses and quiet acceptance by consumers are past. Businesses want more control over health care costs that affect their profits so significantly. Consumers are realizing there is no such thing as free health care even if someone else pays the bill. The federal government is intensifying its efforts to ensure tax dollars are spent prudently on health care. With all these concerns by those outside the medical profession, the conclusion emerges that physicians are the culprits, that we either cannot or will not assume responsibility for our profession.

This is a conclusion we can no longer dismiss or downplay. Only physicians should be responsible for decisions dealing with medicine. From this premise, the Iowa Foundation for Medical Care (IFMC) has set 1983 strategies to help assure the survival and growth of medical peer review in Iowa.

The IFMC is not tough enough is a comment we hear often from our member physicians. *Go after the problems*, they say. According to a recent statewide physician survey, more physicians who responded think the Foundation is too lenient than think it is too stringent.

We are willing to "go after the problems" with either physicians or hospitals, but those exhorting us to take action must remember it is

Dr. Mandsager is a general surgeon in Marshalltown. He is first vice president of the Iowa Foundation for Medical Care and a member of the IFMC Executive Committee.

not strictly a *them-us* situation. Physician supporters must realize that sometimes our actions with their hospitals will affect their practices. Hospital administrators must realize that loss of physician peer review will have an adverse effect on their institutions.

As a first step toward achieving our goals, the IFMC isolated selected hospitals whose utilization rates represent a major portion of all inpatient days used in the state. About 25% of Iowa hospitals account for 71% of all Blue Cross and Blue Shield of Iowa days and 67% of all days under review by the Foundation. We are beginning our program with these hospitals because they can have the most immediate, significant impact on utilization.

Although the reduction goal is based on 1983 performance, the IFMC began laying the groundwork in early fall. Physician teams began comprehensive on-site assessments in each of the hospitals to review utilization review coordinators and examine physician effectiveness, as well as the overall effectiveness of the peer review process. The findings from these assessments will be used to negotiate specific goals with the hospitals. We are revising memoranda of understanding as necessary to reflect goals against which hospitals will be evaluated in 1983.

Foundation physicians are working with ad hoc specialty society committees to develop strategies and criteria for the various hospital goals. The Foundation has also agreed to deal with specific problems upon request from the hospitals. For example, we will assume review responsibilities for specific physicians and utilization review coordinators who have difficulties working internally with particular individuals.

In addition to the primary goal, Foundation physicians have cited complementary strategies for reducing medically unnecessary utilization: revised psychiatric criteria; severity of illness/intensity of service (SI/IS) criteria revisions; broadened pre-admission screening, and an increase in hospital peer review by physicians outside the facilities, where this has become necessary.

In order to ensure physicians understand the 1983 IFMC goals, Foundation physicians are meeting with county medical societies, specialty societies and specialty society ad hoc committees to explain the plan. The IFMC is committed to doing everything it can to ensure that peer review succeeds in Iowa. Our physicians support IFMC goals because they know Iowa utilization problems are real, and they believe physicians should remedy them. I encourage all Iowa physicians to become involved with the Foundation, to find out why Iowa utilization rates are high, and to work to preserve physician control over the delivery of medical care. The IFMC physician leaders are determined peer review will survive.

If you think the Foundation goals and strategies are stringent, imagine the alternatives.

Questions/Answers

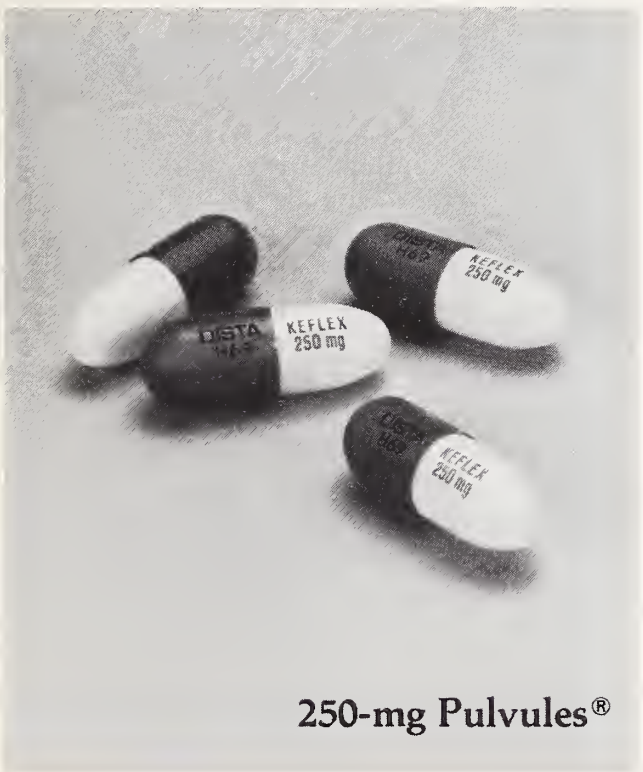
(Continued from page 11)

officers. IMS staff prepares position papers and also coordinates the activities of the Legislative Contact Physicians who are the backbone of our legislative effort. The Legislative Contact Physicians personally explain medical issues to their legislators at home and urge them to support the Society's positions.

What can physicians do to assist the Society in its legislative program?

That's an easy question. Each physician should get to know his or her senator and representative on a personal basis. Once a personal relationship is established, it's much easier to contact a legislator regarding a health related issue of concern to the physician. If a Society member is really interested in the legislative issues, he or she can volunteer for service as a Legislative Contact Physician. We try to have at least 2-4 constituent physicians who are willing to contact their legislator on issues when requested to do so. More information on this program can be obtained by contacting the Society headquarters.

easy to take



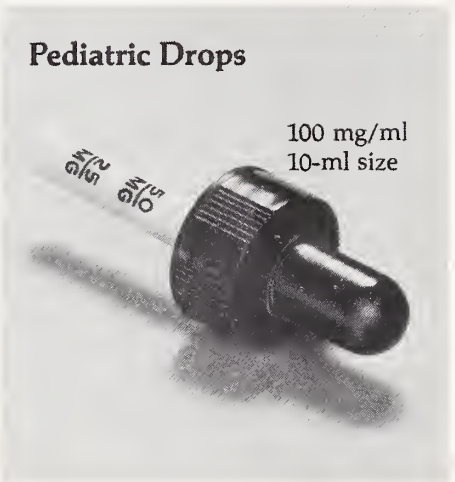
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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

A DARK AND STORMY NIGHT

The comic strip which features Snoopy, that lovable beagle, often depicts him at the typewriter writing that epic story he has never finished, but always begins, "It was a dark and stormy night." My story does not involve a stormy night, though in the minds of some of the characters there may be some emotional storms.

Recently, I was in my car along the curb in downtown Des Moines awaiting my daughter's completion of her day's work in the "Big Store." It was about nine o'clock; the sun had long set, and darkness was gathering rapidly. The stores had been open in the evening for Christmas shoppers. My mood was pensive as I watched the changing scene about me. The weather was cold. The contrails of automobile exhaust pipes added an eerie effect. Many thoughts raced through my mind. I jotted on a notepad a number of my impressions which I thought I would share.

The lights in the shops were being turned off one by one. Mannequins in the store windows seemed to look onto the streets in a lonely manner as though they wished to go home, too.

A well-groomed lady came out of an exclusive dress shop, locked the door, shook the door handle to be assured the shop was securely locked, and walked away. I knew the shop was to be forever closed in a few weeks. What will be the future of that lady? Were her thoughts on a well-deserved retirement, or was she troubled with emotional storms as to her future days?

Shortly before I began these musings I had left my car to do an errand. A rather seedy-appearing man accosted me for a handout. Where was he going? Where had he been? What was his future? Did he have a family? Surely there were recurring storms in his thoughts.

A number of other cars were parked along the curbs; each with a lone driver awaiting someone who needed transportation. Where are they headed and what awaits them? Would the coming weekend provide rest and relaxation, or would it be more work and worry?

As some persons trudged along the sidewalks to whatever mode of transportation awaited them, I could not help but wonder where they were going. Was the young lady going to a happy home; was she working because of absolute necessity? Did she have a child awaiting her at a baby-sitter's home? Had her marriage been happy? Were her family members well? An elderly lady slowly followed the young lady . . . steps more slow, more tedious, more unsure. Were there dark and stormy nights in her past? I hoped there had been many happy days as well.

A young lad hurried by me. Was he to meet someone, or on his way to work during the night? What of his future? My desire for a happy fruitful future went across the chilled airways to this boy.

A lady and small child went by — the mother marching resolutely ahead, the child dragging along apparently tired and unhappy. Probably they had been Christmas shopping; the mother undoubtedly disgusted at the price of her purchases. The child, undoubtedly tired of the ordeal, had lingering thoughts of his enchantment by a visit to toyland and Santa Claus.

Several cars were noted to be circling the block several times. No other parking spaces were left. Soon the person to be given a ride would appear and they would proceed — but to what destination?

Soon there was a rattling of the door handle of my car. My daughter had arrived and we could go home. How fortunate, I felt, that we had a purpose in life; that happiness was ours. The darkness of the night was dispelled by the radiance of my daughter. She was tired, but chattered cheerfully. We were on our way to our healthy, happy home. It was not a "dark and stormy night."

We in the medical profession are more aware

(Please turn to page 19)

IOWANS

AND THEIR VALUED OPINIONS

In Iowa, as around the country, there is unprecedented public interest in health care delivery. At the heart of this interest are the factors of cost, quality, accessibility and utilization. ■ How Iowans feel about these topics is of special consequence. And how their feelings compare with those of other U.S. citizens is important. The thinking of Iowans statewide has been measured recently in an independent public opinion poll sponsored by the Iowa Medical Society. A national survey audience answered the same questions in a survey project undertaken cooperatively with the American Medical Association. ■ As expected, concern over cost heads the list when Iowans are asked about problems facing health care and medicine. Sixty-nine percent of the state respondents identified cost as the central issue; this compares with 62% of the national audience. ■ Pleasingly, the Iowa interviewees spoke very highly of the medical care they are receiving and of the physicians who are providing it. For example, 94% expressed overall satisfaction with the last visit to their physician. In another category, 87% of the Iowans answering said most doctors are genuinely dedicated to helping people. In both instances, the Iowa perception of the medical care being provided was superior to the national response. ■ The survey questions were wide-ranging. On the following pages you will find the key inquiries and the percentage responses both from Iowans and our national counterparts. A further brief comment is made in some instances. ■ Those 1982 survey topics summarized on the following pages include: **• Main Problems Facing Health Care • National Spending Priorities • Competition in Medicine • Satisfaction with Physician Service • Choosing/Retaining a Physician • Medical Malpractice • Physician Image • Ability to Pay Medical Costs • Acceptance of Change in Health Care • Responsibility for Health Care Costs • Personal Lifestyles and Health**

ABOUT THE SURVEY — The consulting firm of Kane, Parsons and Associates, Inc., was selected to conduct the survey. It is a New York-based research organization with major experience in the area of public policy. As stated, sponsors of the independent survey project are the Iowa Medical Society and the American Medical Association. ■ The Iowa data is based on 400 telephone interviews with randomly selected public respondents. The U.S. data consists of 1,504 similarly-conducted interviews. Interviews were conducted during the week of August 9-16, 1982. ■ As the state-level sponsor, the Iowa Medical Society is the professional organization to which more than 3,100 physicians belong. This membership constitutes in excess of 90% of the physicians practicing in Iowa. The headquarters of the Iowa Medical Society is located at 1001 Grand Avenue, West Des Moines, Iowa 50265.

MAIN PROBLEM FACING HEALTH CARE

What do you feel is the main problem facing health care and medicine in the United States today?

	IOWA	U.S.
Cost	69%	62%
Quality	10	13
Access	6	8
Other	15	17

Comment: The 69% Iowa response as to cost is indicative of a deep concern on this issue. It is particularly conspicuous among elderly where 80% respond with cost-related concern. It is likewise strong among residents with less than a high school education and those earning $10,000-$20,000.

CONFIDENCE IN ABILITY TO PAY MEDICAL COSTS

Generally, how confident are you that you have enough money or health insurance to pay for 1) the usual medical costs that a family requires, or 2) a major illness: very, fairly, not too, or not at all confident?

	USUAL COSTS		MAJOR ILLNESS	
	IOWA	U.S.	IOWA	U.S.
Very Confident	37%	34%	26%	25%
Fairly Confident	40	38	35	34
Not Too Confident	15	16	23	23
Not At All Confident	8	11	16	18

Comment: Iowa residents are slightly more confident than the U.S. sample of their ability to pay for both usual and major costs. The poorer and less educated groups express the least confidence. In Iowa, 23% of those earning less than $10,000 are not at all confident they can pay for a major illness; the corresponding national figure is 34%. The 11% difference is perhaps a tribute to the social programs provided in Iowa.

NATIONAL SPENDING PRIORITIES

Do you think we as a society are spending too much money, not enough money, or about the right amount on the following?

	TOO MUCH		NOT ENOUGH		ABOUT RIGHT	
	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.
Education	9%	10%	47%	59%	42%	29%
Defense	46	36	18	27	33	34
Financial aid for the needy	25	22	38	48	33	27
Health care	21	16	36	47	39	35
Public transportation	18	18	32	40	43	38
Protecting the environment	12	11	50	54	35	32

Comment: Sharply fewer Iowa respondents than their national counterparts indicate more should be spent on health care. Iowans consistently favored less spending on the items compared.

RESPONSIBILITY FOR RISING HEALTH CARE COSTS

Thinking about rising health care costs, do you think the following deserve a lot, some, or not much of the responsibility for this rise?

	A LOT		SOME		NOT MUCH	
	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.
Hospitals	55%	57%	35%	33%	8%	7%
Patients who seek unnecessary care	45	44	34	33	19	20
Insurance companies	49	48	37	35	11	14
Organized groups such as the AMA	30	38	47	38	17	17
Government agencies that set and enforce health care standards	38	40	43	38	16	17
Drug companies	49	49	35	36	14	14
Doctors	42	50	47	40	11	9
Unions	28	34	41	37	27	22
People who don't pay enough attention to preventive health care or who have unhealthy personal habits	37	41	37	35	25	22

Comment: Eight percent fewer Iowans than U.S. residents give "a lot" of responsibility for rising costs to doctors and the AMA. Iowans in the $30,000 income group give hospitals (62%) and patients who seek unnecessary care (55%) responsibility for rising costs.

PUBLIC IMAGE OF PHYSICIANS

Please state if you agree or disagree with the following statements about doctors.

	AGREE		DISAGREE	
	IOWA	U.S.	IOWA	U.S.
Doctors' fees are usually reasonable	45%	42%	55%	57%
People are beginning to lose faith in doctors	49	62	50	36
Your physician is accessible in an emergency	82	81	14	15
Most doctors spend enough time with their patients	53	46	46	52
Doctors are too interested in making money	53	60	44	37
Doctors usually explain things well to patients	62	55	38	44
Doctors act like they're better than other people	30	33	70	65
Most doctors take a genuine interest in patients	76	68	23	30
Doctors are usually up to date on medical advances	78	71	19	26
Doctors are genuinely dedicated to helping people	87	80	12	20
Poor people are able to get needed medical care	60	48	36	48
The elderly are able to get needed medical care	64	52	33	45

Comment: In every regard, the public image of physicians is better in Iowa than in the U.S. as a whole. This is a positive and welcome finding. However, Iowa's statistics result in part from high ratings given by the elderly. The respondents in the 35-44 age range offer less favorable responses. Attention to image among younger citizens appears worthy of pursuit by physicians.

COMPETITION IN MEDICINE: THE PUBLIC VIEW

Which of the following statements do you think best describes the situation in your community today as to the number of doctors?

	IOWA	U.S.
There are not enough doctors so many have more patients than they can handle comfortably	34%	38%
There are too many doctors so many have fewer patients than they would like	5	7
The number of doctors is about right	60	52
Not sure	1	3

Some people get medical care from a personal physician, while others go to a hospital clinic, emergency room, outpatient clinic, or a public health department for routine medical care. In the past year have you obtained medical care for nonemergency problems through any of these sources that don't involve going to a personal physician?

	IOWA	U.S.
Yes	20%	25%
No	80	74
Don't know	0	1

Comment: The 20% of Iowans getting medical care in a hospital outpatient setting were more likely to be between ages 18 and 34 and poor. However, this use is shown to be increasing among highly educated, affluent subgroups. This phenomena is clearly having an impact on more traditional forms of medical practice.

CHOOSING AND RETAINING A PERSONAL PHYSICIAN

If you were choosing a doctor, how important would the following factors be?

	VERY		FAIRLY		NOT VERY		NOT AT ALL	
	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.
Recommendations of friends/relatives	59%	63%	31%	26%	7%	5%	3%	6%
The doctor's fees compared to others	36	38	29	28	24	20	10	12
The doctor's qualifications/training	90	89	7	8	3	2	1	1
Advertising about the doctor, phone book, newspaper	14	19	15	17	38	29	32	33
Length of time before doctor can be seen	67	74	25	19	5	4	2	2

Of the Iowa respondents, 88% said they have a personal physician; this compares to 83% nationally. While some misunderstanding likely exists as to type of practice, solo practitioners were named by 34% of the Iowans answering; 64% said their physician is part of a group practice; one percent answered HMO and one percent didn't know.

How important are the following reasons for keeping your personal physician?

	VERY		FAIRLY		NOT VERY		NOT AT ALL	
	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.
Your personal relation with the doctor	53%	65%	29%	22%	11%	9%	7%	4%
The doctor's fees compared to others	32	35	38	34	20	21	9	9
The way you were treated by the doctor's staff	71	75	23	20	6	3	1	1
Length of time to see doctor	62	66	30	26	7	6	1	1
Length of wait in doctor's office	46	51	37	32	15	14	3	3
The doctor's knowledge of medicine	95	96	5	3	0	0	0	0

Comment: Iowans appear from the survey more likely to have a personal physician. Indications are most of these physicians are in a fee-for-service group practice. Elderly Iowans were noted to give higher ratings to recommendations of friends/relatives, fee levels and to appointment wait times when choosing a new physician.

MEDICAL MALPRACTICE

As you no doubt know, there have been a lot of cases recently where people have sued doctors for malpractice. Do you think people who sue physicians for malpractice are usually justified in bringing suit, or are they just looking for an easy way to make some money?

	IOWA	U.S.
Usually justified in bringing suit	35%	47%
Just looking for easy way to make money	56	43
Not sure	10	10

Do you think the amount of money awarded to patients by juries in malpractice suits is usually too much, not enough, or about right?

	IOWA	U.S.
Too much	58%	47%
Not enough	3	7
About right	32	38
Not sure	7	8

Do you think that there should be a limit on the amount of money that can be awarded to someone suing a doctor for malpractice?

	IOWA	U.S.
Yes	65%	61%
No	34	35
Not sure	2	4

Comment: A strong majority of Iowans believe most people who sue physicians are looking for an easy way to make money. Almost two-thirds of the state's elderly feel this way. A good majority view current awards as too high and major support is given to a limit on awards.

SATISFACTION WITH LAST PHYSICIAN VISIT

Thinking about the last time you saw a medical doctor about yourself, would you say you were very, fairly, not too, or not at all satisfied with . . .

	PERCENT SATISFIED	
	IOWA	U.S.
The way the doctor's staff treated you	92%	93%
The way the doctor explained things to you	90	90
The time you had to wait in the office	82	82
The amount of time to get an appointment	88	89
The medical care you received	94	93
Overall satisfaction	94	94

Comment: Iowa satisfaction, while high overall, was generally higher for women than men; satisfaction with treatment and overall goes up with the age of the patient; office wait time is the least satisfying element. Interestingly, too, rural Iowa residents have a statistically-significant greater satisfaction over their care.

ACCEPTANCE OF CHANGES IN MEDICAL CARE DELIVERY

In the future we may be asked to make some changes in our medical system to control costs. Please state how you feel about the following possible changes.

	STRONGLY APPROVE		APPROVE		DISAPPROVE		STRONGLY DISAPPROVE	
	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.	IOWA	U.S.
Instead of a personal doctor you would be treated by a group of doctors, like a clinic	22%	23%	24%	23%	14%	10%	40%	43%
For certain problems you would not see a doctor but rather a trained assistant	34	32	21	22	9	8	36	37
You would have to wait longer to get an appointment than usual	9	10	9	8	16	15	65	66
You would have to wait longer to schedule nonemergency hospitalization	28	25	22	22	15	13	36	39

You would give up the right to see a specialist whenever you wanted unless you paid all of the cost	16	16	10	8	13	11	61	64
You would give up the right to sue for possible malpractice	19	15	9	8	14	12	54	64

Comment: General patterns are similar, even though findings suggest a slightly less resistance to change in Iowa. A small majority favor care by a personal doctor. However, understanding may vary as to what a clinic is. Waiting time for appointments earns the highest disapproval rating.

PERSONAL LIFESTYLES

What do you think about the following things in relation to health?

	HEALTHY THING TO DO		NOT RELATED TO BEING HEALTHY	
	IOWA	U.S.	IOWA	U.S.
Cutting down on amount of fat, red meat or dairy products we eat	58%	67%	40%	30%
Reducing the amount of salt consumed	92	87	8	12
Increasing the amount of fiber or bulk we eat	84	81	14	15
Exercising vigorously at least 2 or 3 times a week	85	86	13	12
Taking vitamins or other food supplements regularly	56	63	42	35
Refraining from smoking cigarettes or smoking in very moderate amount	90	86	10	12
Consuming alcohol only in moderation	84	80	16	19
Maintaining a body weight that's neither too high nor too low	94	92	5	7

For each of those answered "Healthy thing to do" have/do you:

	YES		NO	
	IOWA	U.S.	IOWA	U.S.
Cut down on the amount of fat, red meat or dairy products you eat	76%	79%	24%	21%
Reduced your salt intake	80	82	20	18
Increased amount of fiber or bulk you eat	61	63	38	37
Exercise vigorously several times a week	70	64	30	36
Take vitamins or food supplements regularly	66	66	33	34
Refrain from smoking or do in moderation	83	80	17	20
Consume alcohol only in moderation	91	90	8	10
Maintain a suitable body weight	78	78	22	22

Comment: Iowans appear similar to most U.S. citizens in their perception of a healthy lifestyle. This level of awareness is increasing and deserves ongoing concentration. It needs emphasis because there is still some gap between what people know about good health practices and how they apply them personally.

SUMMARY

The information compiled in this 1982 opinion poll compares Iowa attitudes with a national sample. The survey findings demonstrate that our Iowa citizens see today's delivery of health care in a fairly favorable light despite economic factors. Affirmation is given clearly to the need to address the accelerating costs. However, in a positive vein, the receptivity of Iowans to the health care they are receiving is pleasingly good. The Iowa Medical Society should be and is committed to maintaining this worthy regard for the efforts of its member physicians.

Copyright, January 1983

(Continued from page 18)

than most people of the trials and tribulations of our fellow persons. Our contacts with patients are often when they are ill and in pain. It is our opportunity to give them solace and a compassionate assist to alleviate their pains, and to help dispel the storms and dark clouds in their lives. At the onset of a new year we must reflect upon their needs and stand ready when we are needed. We also must anticipate their problems in advance and forecast some of the dark and stormy times they may have in store. By so doing, we can help prepare them to cope with any difficulties. Our profession is fortunate that we can render such a service to our fellow persons. — M.E.A.

DONALD C. CONZETT, M.D.

In the passing of Donald C. Conzett, M.D., a long, glorious career came to an end.

Dr. Conzett will be remembered as a kind, generous, affable physician, who served his calling so very well. He won recognition as a soldier, having been in the military during World Wars I and II, advancing to the rank of Full Colonel.

His interest and efforts in the furtherance of organized medicine were recognized by the Iowa Medical Society when he was elected its president, serving in this capacity in 1952. Coupled with the activities in the Dubuque County Medical Society and the Iowa Medical Society, he was alternate delegate to the American Medical Association and served a full tenure on the Federal Military Services Committee of the AMA.

Dr. Conzett, by his nature, was an enthusiast, unselfish and willingly gave of his time and talents to those in need. He was a prolific writer and had many medical articles published.

He was held in high esteem by his colleagues. Those who had the privilege and the pleasure of his company have been made much happier with a life more full because the memories of his fellowship are lasting and will afford pleasure in recounting the times shared with him.

He is gone but his memory will live long. — Donovan F. Ward, M.D., *Dubuque, Iowa.*

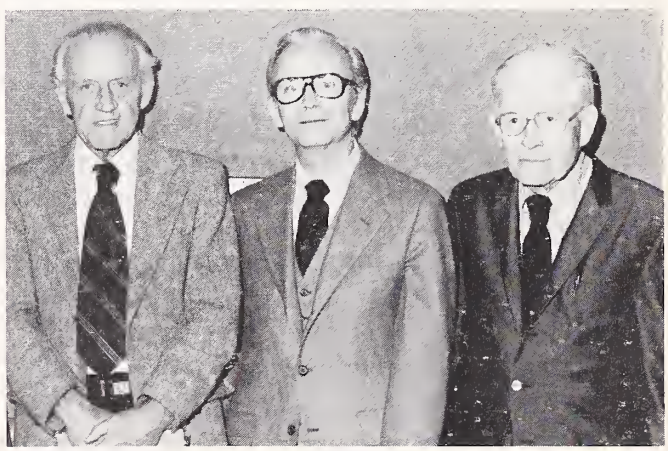
DIRECTORY FOR DISABLED PHYSICIANS

The St. Paul-Ramsey Hospital Medical Education and Research Foundation in Minnesota is compiling a resource directory for physically disabled physicians. The purpose of the directory is to provide information and referral services to such physicians, as well as organize a mutual support group.

It is currently estimated that 4% of all physicians are not in active practice because of a physically disabling condition and that 25% of these physicians (1% of the total physician population or 4,500 physicians) could be rehabilitated.

All physicians with a physical disability who would like to be included in the directory are urged to contact Frank C. Zondlo, M.D., St. Paul-Ramsey Hospital Medical Education and Research Foundation, 640 Jackson Street, St. Paul, Minnesota 55101.

IOWA REPRESENTED AT JOURNAL PARLEY



Marion E. Alberts, M.D., Scientific Editor of the IMS JOURNAL, is shown center above during his recent attendance at the Sandoz Medical Journalism Workshop in Chicago. Pictured with him are Professor Paul Fisher, left, of the University of Missouri School of Journalism, and Dr. Frank Ramsey, right, editor of the JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION. The workshop was conducted by Sandoz Pharmaceuticals as part of its year-round medical journalism program.



OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

CME FORECASTING

RECENTLY, I was interviewed by a woman who directs the computer-systems department of a large Eastern university. The point of the interview was to peer into my "crystal ball" to see what CME might be like in another 20 years. My questioner was also especially interested in what I thought might become the principal uses of "modern technology" in CME of the future.

I never feel particularly comfortable about forecasting the future, especially the distant future. I'm seldom comfortable enough about even the near future to bet a beer on a football game. Nevertheless, because I had been identified to her as a "CME expert," I bravely tried to make some kind of meaningful answer. I didn't think of it at the time, but perhaps I was being asked what Isaac Asimov has called the "central problem of science fiction," namely "the impact of scientific advance upon human beings."

I guess my answer boiled down to this: that I expected CME near the turn of the century to be in most ways rather like it is at present, with lots of meetings and lots of lectures. However, the telecommunication marvels possible with transmissions by telephone, radio, video and satellite would make their impact felt, along with the impact and interactions with computers. I surmised that all those devices would facilitate interpersonal and interinstitutional contacts in a fruitful way: they would permit ready transmission of mountains of factual information. But more important, as far as the process and outcome of care are concerned, would be the extent to which those devices, especially computers, would guide the physicians' decision-making in giving care and then monitoring the progress of the patient and the care plan.

My own experience and some published recent surveys suggest to me that today's physicians think of computers in relation to their practices mainly as a way to help deal with such practical administrative necessities as appointments, billing, and maybe a few lists of patients grouped by diagnosis. I think the future holds a rich prospect, in addition, for physicians to check their diagnostic and therapeutic hypotheses with data bases available through computer networks, and furthermore, that data about individual patients will be entered in the computer, their progress monitored and therapeutic needs suggested via clever use of computer programs and information networks.

Should all that be called science fiction? Call it that if you wish, but remember that much of today's standard equipment and processes were the science fiction of yesterday. And there can be no doubt that these matters deal with "the impact of scientific advance upon human beings," and thus, Asimov's "central problem of science fiction" may well come to coincide with the central problem of everyday reality.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

COURSES & CONFERENCES U. OF I. COLLEGE OF MEDICINE

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February 17	Radiation Therapy Seminar
March 1-4	Refresher Course For the Family Physician
March 2	Ophthalmology Clinical Conference
March 10-12	Cardiac Dilemmas
March 11	Otolaryngology Clinical Conference
March 16	Diet Therapy U.S.A.



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DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

SUCRALFATE: A NEW DRUG IN THE TREATMENT OF DUODENAL ULCER

THE PATHOGENESIS of peptic ulcer is multifactorial. The disease is considered to be the result of an imbalance between the aggressive forces of acid and pepsin and the defensive forces of mucosal resistance.[1] Current medical therapy is accordingly directed either at reducing gastric acidity or enhancing mucosal defense. New drugs continue to be developed to accomplish these two goals. Some of these drugs have been approved for use in the United States; others are being used abroad, and still others are undergoing evaluation. The current cornerstones of therapy are potent high-dose antacids and the H-2 receptor antagonist, cimetidine. Antacids buffer acid that is already present, while H-2 receptor antagonists depress secretion of acid.

Recently, sucralfate, a new drug with a different mode of action has been released in the United States for the treatment of duodenal ulcer. Sucralfate is proposed to act by binding selectively to ulcer sites to form a protective barrier that limits acid and pepsin access to the ulcer. The substance has also been shown to adsorb pepsin and to bind bile salts. Sucralfate has been in use in Japan since 1966. Current studies indicate that treatment with sucralfate is better than placebo,[2, 3] and about equal to treatment with cimetidine[4] in inducing healing of duodenal ulcer.

DEVELOPMENT

For decades, it has been known that sulfated polysaccharides possess antipeptic properties. Most of the early work was done with amylopectin sulfate. There were questions about the clinical efficacy of amylopectin and, because of its structural similarity to heparin, concern about its anticoagulant activity.[5] Also, amylopectin was found to cause ulcerative lesions in the cecum and colon in experimental animals. Japanese chemists, by reducing the degree of polymerization and maximally sulfating the compound, have produced basic aluminum sucrose sulfate or sucralfate, a compound with none of the above objections. Sucralfate is a complex salt of polyaluminum hydroxide with a sulfated disaccharide skeleton. It is insoluble in water and common organic solvents and is soluble in strong acids and bases. In its soluble form, sucralfate forms a viscous adhesive.

MODE OF ACTION

Sucralfate is a nonsystemic drug that exerts its antiulcer effect locally, at the ulcer site. It does not appreciably affect acid secretion and does not neutralize the acidity of stomach contents. Sucralfate is thought to promote ulcer healing by binding to the ulcer site and by inhibiting the actions of acid, pepsin, and bile.[5]

A. Binding to Ulcer Base

Following ingestion, sucralfate forms a suspension in chyme. Sucralfate in suspension has a significant affinity for proteins, which are prominent in the composition of the ulcer base. In rats with experimentally produced ulcers, sucralfate adhered to gastric and duodenal ulcers for at least six hours, even though food or antacid had been given near the time of drug administration.[6]

B. Inhibition of Acid Activity

Sucralfate inhibits the ulcerative properties

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

of acid.[6] It does not neutralize the stomach contents as antacids do, but seems to form a protective layer over the ulcer and so block the diffusion of hydrogen ions to the ulcer.

C. Inhibition of Pepsin Activity

Sucralfate, in addition to presenting a barrier to diffusion, also has the ability to adsorb pepsin in suspension.[6] In experiments using a diffusion tube, sucralfate-protected albumin was not degraded by pepsin while albumin exposed directly to pepsin was quickly destroyed.

D. Inhibition of Bile Acid Activity

In vitro studies suggest that sucralfate binds to bile acids.[6] When a suspension of sucralfate in a buffered solution was added to glycocholic acid, up to 112 mg of the bile acid per gram of sucralfate was bound.

All of the above studies have been performed *in vitro* except the studies involving the binding of sucralfate to ulcer sites and one pepsin study. These have been *in vivo* in sacrificed rats or in human surgical specimens and aspirated gastric contents, respectively. Sucralfate probably binds to the ulcer base but whether it indeed forms a protective barrier to acid, pepsin, and bile *in vivo* is still unclear.

TOXICOLOGY

Studies with radiolabeled sucralfate in animals show that only a small amount of sucralfate (2-5% of an ingested dose) is absorbed from the gastrointestinal tract. Animal studies of both acute and chronic ingestion have failed to demonstrate any toxic effects despite the use of dosages so large that it was physically impossible to give the animal more.

CLINICAL STUDIES

There are 5 placebo-controlled, endoscopically evaluated, single- and double-blinded studies that have compared the effectiveness of sucralfate with either placebo or cimetidine in the treatment of duodenal ulcer. Two of these are multicenter studies conducted in the United States, and one is from Canada.

One multicenter study[2] involved 22 medical centers with 216 outpatients. The protocol restricted the study to patients with endoscopically confirmed duodenal ulcers that were acute, single, and benign. A liquid antacid (Maalox) was dispensed for use as needed. Two 500 mg tablets of sucralfate or placebo were given after meals and at bedtime. After 2 weeks, endoscopic examination indicated complete healing in 35% of the sucralfate-treated patients, as compared to 25% of those given placebos. After 4 weeks, healing had occurred in 75% of the sucralfate-treated group and in 65% of the placebo-treated group. Sucralfate-treated patients reported a greater reduction in both diurnal and nocturnal pain and consumed significantly less antacid than did those in the placebo-treated group. The seemingly high placebo response rate may be due to the liberal use of antacids (which was lower in the sucralfate group). No serious side effects were reported with sucralfate use; the most common complaint was constipation, occurring in 2.6%. Laboratory evaluation done during the study period indicated that sucralfate had no effect on blood coagulability, hematopoiesis, renal function, or hepatic function.

A second U. S. study[3] was conducted under one protocol at 11 centers to test the conclusions of the study summarized above. It had a similar protocol. The only difference was that sucralfate was given before rather than after each meal, and at bedtime, and the antacid was given in tablet form rather than in liquid form. Complete healing occurred after 2 weeks of therapy in 8 of the 24 patients who received sucralfate (33%) and in 4 of 31 patients in the placebo group (12.9%). After 4 weeks, 22 (91.7%) of the sucralfate-treated group were completely healed compared to 18 (58%) of those given placebo.

A third report was a double-blinded randomized trial that showed sucralfate to be as effective as cimetidine in the treatment of duodenal ulcer.[4] Fifty-nine patients with symptomatic uncomplicated duodenal bulb ulcers were randomly assigned to treatment with either sucralfate or cimetidine. All patients took 2 white tablets (either 500 mg of sucralfate or a white placebo tablet) and one green tablet (cimetidine or a green placebo tablet); the 3 tablets were taken 0.5 hr. before each of 3 meals and before bedtime (4 grams of sucralfate and 1.2 grams of cimetidine). Although antacid use was recorded by the patient, antacid was not supplied by nor recommended by the investigators. After 4 weeks, endoscopy revealed complete ulcer healing in 80% of the sucralfate-treated patients and

(Please turn to page 26)

STATE DEPARTMENT/ PUBLIC HEALTH

MANAGEMENT OF ACUTE DISEASE INCIDENTS AND EXPOSURES

IOWA PHYSICIANS are sporadically confronted with patients who have a history of exposure to a serious disease such as meningococcal meningitis, rabies, or hepatitis. Frequently, these are exposures involving numerous persons from several households. Usually, more than one medical clinic is involved in managing treatment or prophylaxis that often involve different regimens of therapy resulting in confusion and anxiety. In an effort to obtain maximum effectiveness and minimize costs of treatment, the State Department of Health, Epidemiology Section, offers consultation on current management approaches for any disease episode. A telephone call may be sufficient to address these incidents and achieve a consensus.

Less frequently, other problems may be community-wide in scope and impinge on several medical clinics with varying management plans. Patients may become confused and anxious and request additional therapy that is unnecessary. The Epidemiology Section or "disease control" activity welcomes the opportunity to assess these situations and develop a consistent set of recommendations in collaboration with area practitioners. In this type of partnership, the State Department of Health can serve a coordinating role by addressing concerns of citizens of the community and answering questions from the media.

The Department offers to serve in this role for a variety of reasons. Community-wide episodes are in the domain of local and state health departments and logically should be overviewed by these agencies since environmental or community conditions may be contributing factors. Health departments (or the State Health Department in the absence of a local health department) have the means, personnel, and legal authority to evaluate existing control measures or any preventive measures to be invoked at the time of crisis. It may be necessary to modify or change control measures based on further evaluation. Successful management of disease episodes is linked with ongoing investigations which give direction to optimum control. Special laboratory studies can be arranged through the University Hygienic Laboratory in Iowa City at no cost to clinics or patients. These studies may be essential to define exposure and identify populations at risk.

Major problems of disaster proportion, e.g., chemical spills, radiation accidents, require a multi-agency approach for containment and management. Appropriate state and federal agencies (health, environment, agriculture, FDA, etc.) may have specialized roles to fulfill. Again, it is imperative that one agency coordinate a task force for consistency, exchange of information, and optimal management. It may be necessary to establish triage systems to optimize use of medical care resources and minimize long-term disability. A designated task force director with proper vested authority can be more effective in this type of situation.

In summary, the State Department of Health exists to serve community physicians in managing acute disease episodes. We are capable of arranging secondary consultations with various national and state authorities, developing necessary epidemiologic and collaborative laboratory studies, and finally assuming the responsibility of establishing control measures. The Department has broad legal authority to invoke necessary measures to prevent continuing exposure. Time is of the essence in these incidents as early notification is imperative to achieve consistency of management and successful resolution of a problem. Accordingly, physicians, hospitals, and clinics are encouraged to promptly report community-wide disease problems for assistance in investigation and control.

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

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(Continued from page 23)

75.9% of cimetidine-treated patients. The overall healing rates after 8 weeks were 90% for the sucralfate group and 86.2% for the cimetidine group. There were no significant differences in the number of ulcers healing, in symptom relief, or in side effects. Antacid use was small and similar in both groups.

These 3 studies give the most compelling evidence showing that sucralfate is more effective than placebo and as efficacious as cimetidine. However, the latter 2 studies suffer from the small numbers of patients involved and the first study had a large number of exclusions. This study, for example, excluded chronic ulcer patients. This study also showed a very high placebo response rate (65%).

THERAPEUTIC CONSIDERATIONS

Sucralfate is currently approved for the short term (4 to 8 weeks) treatment of duodenal ulcers. Although it may also be effective for treatment of gastric ulcer, sucralfate has not been approved for this use in the United States. The usual dosage is 1 gm one-half to one hour before meals and at bedtime (4 gm per day). The idea behind the dosage before meals is that a clean ulcer base will allow binding of the drug to the ulcer base and not to food. Antacids may be used PRN.[7] The most common side effect is constipation (2.2%). Other infrequent side effects include dry mouth and skin rash. There are no known contraindications. Safety and efficacy have not been established in children or in pregnant women; it is not known if there is any drug secreted in the milk.

The advantages of sucralfate are that its action is nonsystemic and that it treats duodenal ulcers topically by forming a protective barrier. It is clinically as effective as cimetidine with virtually no side effects. Sucralfate costs about 10% less than cimetidine — about one dollar per day for a 4- to 8-week course.

A disadvantage that sucralfate shares with other current ulcer treatments is that it may not affect the rate of ulcer recurrence. One Japanese study[8] has shown increased healing of *gastric* ulcers and significantly delayed recurrences in sucralfate-treated patients. Whether sucralfate will alter the natural history of peptic ulcer disease remains to be seen.

Another potential disadvantage is that, by nature of its protein-binding ability, sucralfate may have significant drug interactions. Although animal studies show no interference with the absorption of many commonly used drugs (digoxin, propranolol, theophylline, diazepam, warfarin), there are no human studies to support this.

Pharmacokinetic studies from the manufacturer indicate that sucralfate is most effective at low pH (2.0-2.5) and requires a "sufficient" volume of acid.[11, 12] Since cimetidine elevates gastric pH and also reduces the volume of gastric acid, it would appear that concomitant usage with sucralfate would adversely alter the action of sucralfate. This potential drug interaction has not been studied. However, the binding of sucralfate to duodenal ulcers at higher pH has been demonstrated (40% binding at pH 5.2).[5] Alternatively, there is no evidence that the combination of sucralfate and cimetidine produces significant benefits over either one alone. Until this has been demonstrated, the combined usage of cimetidine and sucralfate should be avoided.

Studies are currently under way in the United States to determine the efficacy of sucralfate in the treatment of gastric ulcer, its possible synergism with other ulcer treatments, its efficacy in the absence of antacids, and its use in the treatment and prevention of bile gastritis and marginal ulcers after gastroenterostomy. It is also being studied for the treatment of reflux esophagitis, and for the prevention of aspirin-induced gastric erosions.

SUMMARY

Sucralfate seems to be a safe and effective drug that acts locally in the treatment of duodenal ulcers. It is an appealing drug because so little is absorbed. It appears to act by forming a protective barrier over the ulcer site, preventing the access of acid, pepsin, and bile. Further clinical experience with this drug will show its full potential and limitations. — Anthony Chu, M.D., Fellow in Gastroenterology-Hepatology

(References listed on page 27)

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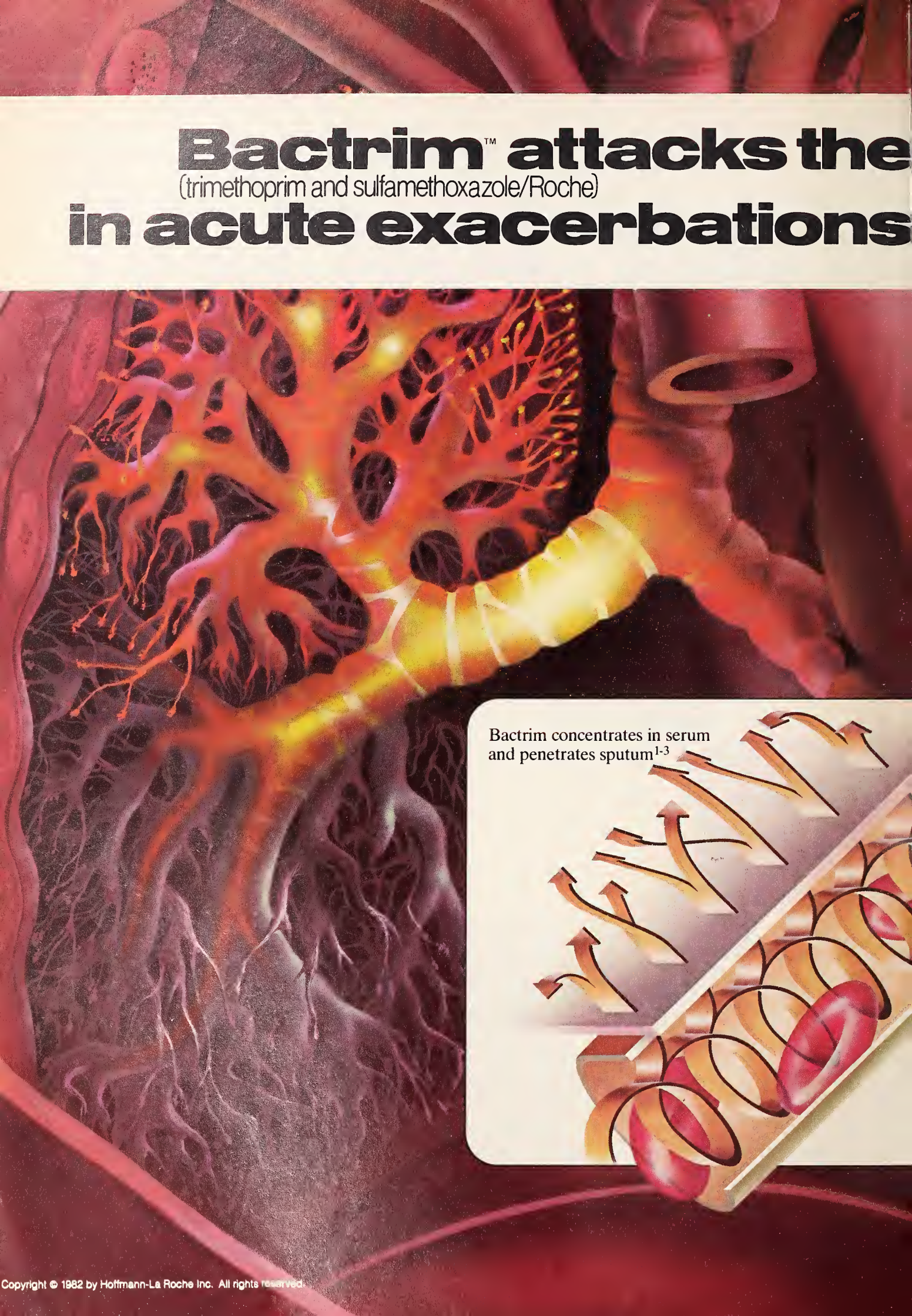
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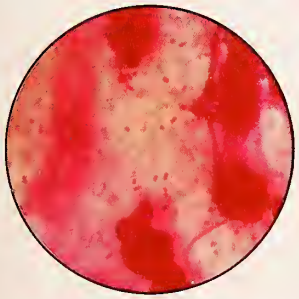
major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

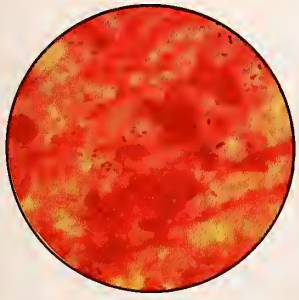
In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

attacks *H. influenzae*—even ampicillin-resistant strains



attacks *S. pneumoniae*



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Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother 1/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J 112*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother 1*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection 6*(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

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Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.
For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.
For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.
For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.
Also for the treatment of documented *Pneumocystis carinii* pneumonitis.
Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.
Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.
Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.
Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.
Dosage: Not recommended for infants less than two months of age.
URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:
Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.
Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.
ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:
Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.
PNEUMOCYSTIS CARINII PNEUMONITIS:
Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.
Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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DRUG THERAPY REVIEW

(Continued from page 26)

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November 1982 Morbidity Report

Disease	Nov. 1982 Total	1982 to Date	1981 to Date	Most Nov. Cases Reported From These Counties
Amebiosis	2	69	19	Boone, Johnson
Brucellosis	0	5	7	
Chickenpox	433	6483	7849	Polk, Dubuque, Webster
Compylobocter	34	322		Polk, Dubuque, Jockson
Cytomegalovirus	2	40	29	Johnson, Polk
Eoton's Agent infection	35	267	44	Polk, Scott, Hardin
Encepholitis, virol	2	45	31	Dubuque, Johnson
Erythema infectiosum	0	247	1169	
Gostroenteritis (GIV)	1328	11144	15820	Polk, Linn, Johnson
Giardiosis	24	166	127	Polk, Johnson, Lee
Hepatitis, A	3	76	203	Polk, Pottowottamie Woodbury
Hepatitis, B	3	81	84	Black Howk, Johnson, Polk
Hepotitis, Non A-B	1	17		Linn
Hepatitis type unspecified	1	28	54	Morion
Herpes Simplex	64	455	235	Johnson, Polk, Scott
Herpes Zoster	2	12	8	Polk
Histoplosmosis	0	15	15	
Infectious mononucleosis	13	179	279	Linn, Block Hawk, Polk
Influenza, lab confirmed	0	74	191	
Influenzo-like illness (URI)	3569	37701	59717	Linn, Johnson, Polk
Legionellosis	2	23		Johnson, Des Moines
Molaria	1	8		Johnson
Meningitis				
aseptic	20	94	71	Polk, Lynn, Dubuque
bacterial	17	155	118	Scott, Dubuque, Polk
meningococcol	0	12	26	
Mumps	17	51	70	Floyd, Block Hawk
Pertussis	1	9	7	Cerro Gordo
Robies in onimols	18	365	825	Emmet, Story
Reye Syndrome	0	5		
Rheumotic Fever	0	3	9	
Rubello (Germon meosles)	0	0	4	
Measles	0	0	1	
Salmonellosis	26	304	250	Woodbury, Black Hawk, Johnson
Shigellosis	8	67	35	Polk, Pocahontas
Tetanus	1	4		Polk
Toxic Shock Syndrome	0	16		
Tuberculosis				
totol ill	3	69	80	Buchanan, Polk, Story
boct. pos.	2	51	53	Buchanan, Polk
Typhoid Fever	0	1		
Venereol diseoses:				
Gonorrhea	389	4339	4834	Polk, Scott, Block Howk
Syphilis	4	31	24	Polk, Shelby, Johnson

ABOUT IOWA PHYSICIANS

Dr. Richard R. Cooper, professor and chairman, Department of Orthopaedics at the U. of I. College of Medicine, recently was appointed by Richard Schweiker, Secretary of Health and Human Services, to an advisory council to the National Institutes of Health. Dr. Cooper was nominated to serve on the council by the American Academy of Orthopaedic Surgeons. . . . **Dr. Thomas F. Thornton, Jr.,** Waterloo, recently was honored by Pope John Paul II as a recipient of the Knights of St. Gregory Award. The award honors Dr. Thornton for his distinguished service to his church and community. He has practiced medicine in Waterloo since 1946. . . . **Dr. Charles Fee,** a former Denison physician, is the author of a new book entitled, "Two Dollar House Calls." The book is the story of life as a "country doctor" during the depression in the 1930s. Dr. Fee, who now resides in Salem, Oregon, practiced in Denison from 1938 until 1967. . . . **Dr. LeRoy Johnson,** Ames, recently was named a Fellow of the International College of Surgeons.

. . . **Dr. and Mrs. William A. Castles,** Dallas Center, recently were honored by residents of Dallas Center and the surrounding area at an open house. A plaque was presented to Dr. Castles noting his 36 years of medical service to the Dallas Center area. Dr. Castles began medical practice in Dallas Center in May, 1946, retiring in March, 1982. . . . **Dr. Tom E. Smith, Jr.,** Ames, recently was appointed to the Board of Directors, American Cancer Society, District 7. . . . **Dr. C. A. Fangman,** Carroll, recently was appointed to the St. Anthony Regional

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Hospital Board of Directors. Dr. Fangman is a past president of the Carroll County Medical Society, past chief of staff at St. Anthony Regional Hospital, past president of the Creighton University Alumni Club of Carroll and former member of the Carroll Community School Board. In addition, he has served as Carroll County medical examiner.

Dr. Orman Nelson, Jefferson, recently was named a fellow of the American Academy of Family Physicians. . . . **Dr. Robert C. Haakenson** recently was elected president of the Hancock-Winnebago County Medical Society. **Dr. W. David Clark** is the secretary-treasurer. Both are Forest City physicians. . . . **Dr. W. John Robb,** Cedar Rapids, **Dr. John S. Strauss,** Iowa City, and **Dr. Roger Ceilley,** Des Moines, recently participated in the Eleventh Annual Governor's Safety Conference. The Conference is designed to promote a greater sensitivity by government to worker hazards and provide a safer workplace in both the public and private sectors. . . . **Dr. Mark J. Goldberg,** assistant professor, Department of Pharmacology, U. of I. College of Medicine, recently received a 3-year teaching and research scholarship from the American College of Physicians. . . . **Dr. Jeanne Montgomery Smith,** associate professor, internal medicine, U. of I. College of Medicine, recently was inducted into the Iowa Women's Hall of Fame. Dr. Smith was honored for her achievements in medicine. She was the first woman physician to join the U. of I. Department of Internal Medicine and is well-known for her research in the epidemiology of asthma. A native of Canada, Dr. Smith received the M.D. degree from the University of Toronto and served her residency at the University of Toronto and McGill University. She took further postgraduate work in England and was a fellow at Johns Hopkins University Hospital.

Dr. Robert A. Huber, Charter Oak, recently was honored by the American Academy of Family Physicians for maintaining 25 years of membership in the nation's largest medical specialty organization. The Academy honored the 25-year members in a special ceremony at its 1982 Annual Convention. . . . **Dr. Peter D. Wallace,** clinical assistant professor in the De-

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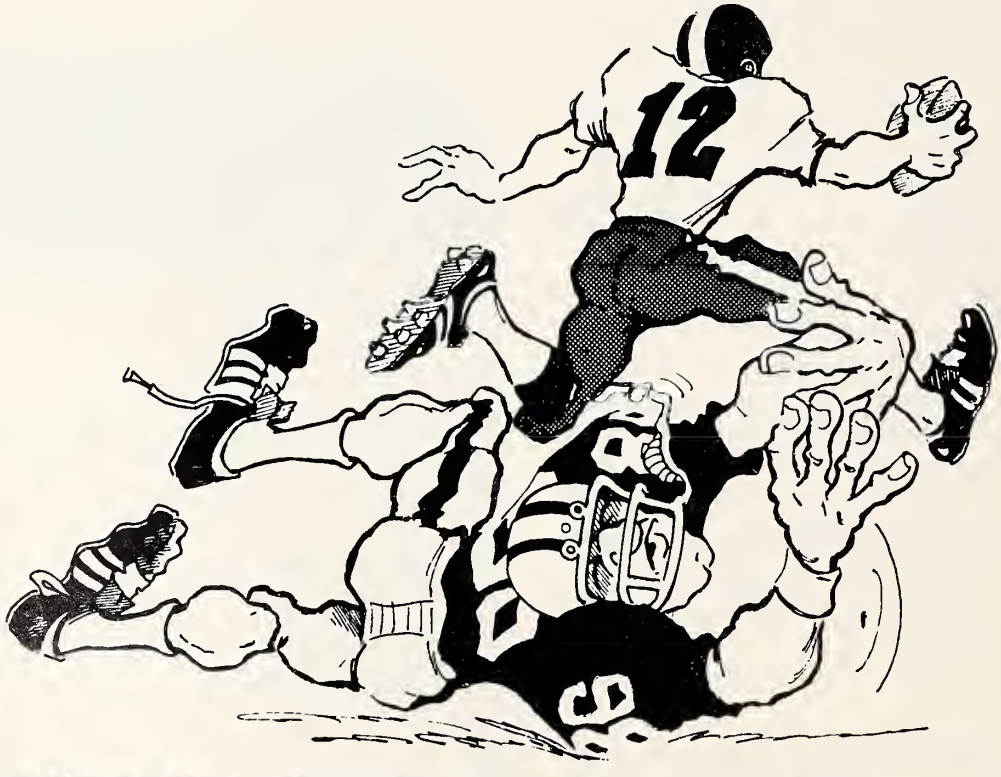
partment of Pediatrics at the U. of I. College of Medicine, recently was elected alternate chairman of District VI of the American Academy of Pediatrics. Dr. Wallace has served the past 4 years as chairman of the Iowa Chapter of the Academy. . . . Four Clinton physicians, **Dr. R. E. Dwyer, Dr. Mae Danielson, Dr. George Ellison** and **Dr. Ross King,** were honored at the 125th anniversary meeting of the Clinton County Medical Society for longtime service in the medical profession.

DEATHS

Dr. Ivan E. Brown, 68, longtime Hartley physician, died November 3 in a Sioux City hospital. Dr. Brown received the M.D. degree at Washington University Medical School in St. Louis, Missouri. A Hartley physician and surgeon for 33 years, Dr. Brown was practicing in Spencer at the time of his death.

Dr. Ahmed A. Taha, 38, his wife, and two children died November 25 in a fire at their home in Clinton. Dr. Taha received his medical education at Alexandria University in Alexandria, Egypt, and took postgraduate work in the United States at Barberton Citizens Hospital in Barberton, Ohio; Huron Road Hospital in Cleveland, Ohio, and Methodist Hospital in Brooklyn, New York. Dr. Taha also served fellowships in oncology and hematology at Medical College of Georgia in Atlanta, Georgia and M. D. Anderson Cancer Centre in Houston, Texas.

Dr. John D. Ray, 31, Humboldt, died November 20 in his office in Humboldt. Dr. Ray received his medical education at the College of Osteopathic Medicine and Surgery in Des Moines and interned at Grandview Hospital in Dayton, Ohio. Following his internship, he served three years in the U. S. Army. Dr. Ray was a member of Phi Beta Kappa Honor Society and was given the distinguished service award while serving in the U. S. Army.



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EMERGENCY ROOM PHYSICIANS — needed full time to staff the Emergency Department at St. Joseph Mercy Hospital in Mason City, Iowa. Malpractice insurance provided. If interested call COLLECT 417/882-3768. MASON CITY EMERGENCY ASSOCIATES.

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In The Public Interest

PMI — A Worthy Program

IF YOU KNOW about the new American Medical Association Patient Medication Instruction Program (AMA/PMI), that's good. If you are an Iowa physician thinking about trying it in your practice, that's even better. It is a brand new program with the potential for doing much good.

As with projects that are fledgling in nature, establishing awareness takes some time and repetitive comment. So, if what you know about the AMA/PMI program is only sketchy, these paragraphs will reacquaint you. They may even persuade you to join the more than 100 Iowa physicians already using PMIs.

The AMA/PMI program has two main goals: *to help inform patients about the medications prescribed for them, and to give physicians a new assist in achieving this objective.* Initial financing for the program has come from private sources; already $1.8 million has been contributed by 18 different pharmaceutical concerns.

In a nutshell, here's what the PMI program can do: (1) improve the effectiveness of drug therapy; (2) strengthen the physician/patient relationship; (3) reduce the risk of improper drug use; (4) curtail the incidence of preventable and serious adverse drug reaction, and (5) foster patient compliance. It can do these things with little added expense and little disruption to existing practice procedures.

What is a PMI? It is a 5½'' x 8½'' sheet printed front and back. It has information on a particular drug or drug class. It explains clearly and simply the purpose of the drug, how it is to be taken and its possible side effects. Space is allowed to write in the dosage and any special instruction for the individual patient.

PMI sheets come in pads of 100. At this early point, there are PMIs for 20 of the most commonly prescribed drugs. They were selected for their broad product coverage and high Rx frequency. Eventually, the program contemplates PMIs for as many as 100 drugs or drug classes.

PMIs now cover furosemide, thiazide diuretics, oral penicillins, beta-blockers, digitalis preparations, coumarin-type anticoagulants, oral antidiabetics, tetracyclines, cephalosporins, erythromycin, nonsteroidal anti-inflammatory agents, benzodiazepines, nitroglycerin, methyldopa, insulin, corticosteroids — oral, cimetidine, belladonna alkaloids and barbiturates, phenytoin and sulfonamides.

Interested Iowa physicians will find the PMIs easy to use. They can be distributed with each prescription simply by tearing off the appropriate sheet (they come in pads of 100) and giving it to the patient. This printed information is not a substitute for the usual oral explanations and instructions given each patient. Neither is it a legal instrument of informed consent, or an attempt to provide full and complete data. Rather, the program is meant simply to augment what is done now. It will help both the physician and the patient.

The program is voluntary. Physicians have full control of their distribution of the PMIs. This is in contrast to earlier intentions by the Food and Drug Administration to require PPIs (Patient Packaged Inserts) to be included with medications when dispensed. The FDA viewed this private initiative program favorably and shelved its mandatory plans.

In summary, if one takes a look at a PMI he/she will find to-the-point information under the headings: *Uses of This Medicine, Before Using This Medicine, Proper Use of This Medicine, Precautions While Using This Medicine* and *Side Effects of This Medicine.*

The AMA/PMI program is the result of much effort and much medical input. It is worthy of a look/see by Iowa physicians. Order information is available either from the AMA or the IMS.

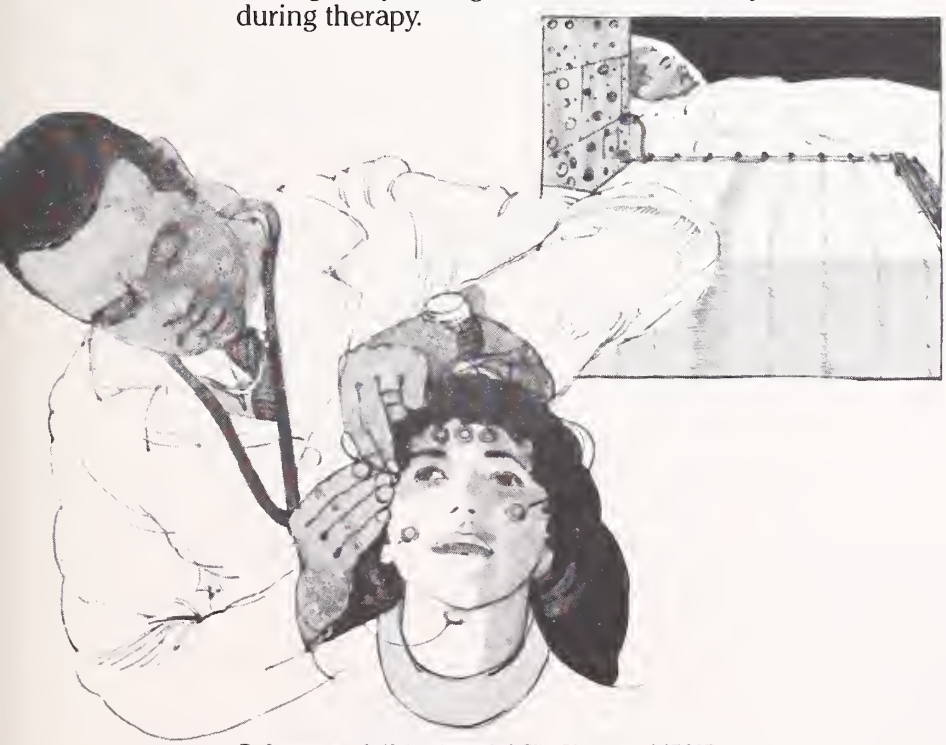
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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

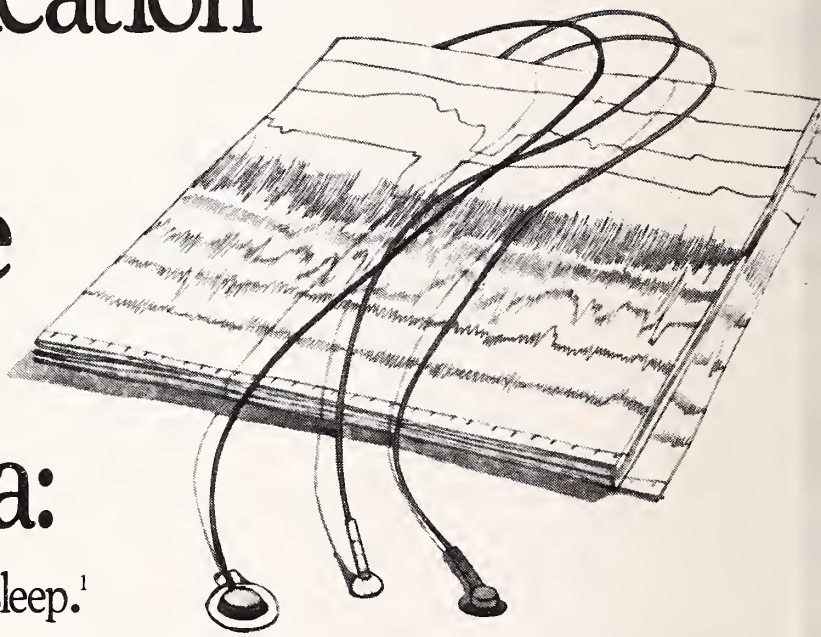
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JOURNAL OF THE IOWA MEDICAL SOCIETY

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ABOUT THE COVER — The existence of Dr. Thompson Avenue in Oakland, Iowa, is a tribute to the professional and human service provided by this man to his fellow citizens. Dr. Thompson died in December at age 91, after more than six decades of practice in Oakland. The cover photograph is provided courtesy of The Council Bluffs Nonpareil.



PRESIDENT'S PRIVILEGE

AMONG IOWANS, the *looking forward* mood could well reach its peak in February. It's now we climb winter's hump and take an expectant glance at the greening-up months of April and May.

This *looking forward* mood intensifies also at the Iowa Medical Society. Please stay with me.

Now being issued are the communications needed to get ready for the Society's Annual Meeting. This month and next our IMS councilors will conduct their district caucuses. The routineness of this schedule should not detract from its importance. It's vital to the democratic process.

Nineteen eighty three is particularly consequential. It is the first time in 10 years our two major IMS events — the House of Delegates and the Scientific Session — will run in tandem. It will all happen between April 30 and May 2 at the Des Moines Marriott Hotel.

First, about the House (April 30/May 1): we say grass-roots vitality is crucial; so, if you have issues of state-level consequence that are being discussed in your doctors' lounge and elsewhere locally, get a resolution(s) together on the topic(s) so it(they) can be aired before the House of Delegates. Make sure, too, your county delegates are designated and ready to participate in the House; if your county isn't represented then your disagreement with a particular policy is less valid.

Secondly, and equally important, is the IMS Scientific Session (May 1-2). It is a convenient way to earn CME credit. It is also a good time to see colleagues you don't see so often. The 1983 Program Committee has structured an exceptionally interesting format. It starts with a special presentation by AMA President-Elect Frank Jirka of Illinois. Program topics include alternate delivery systems, a working hospice, new imaging techniques, transplant surgery, anxiety, new drugs in rheumatology, same-day surgery, genetic engineering, and dementia/pseudo-dementia. In addition to these and other presentations, the popular and brief *What's New* sessions are set. There will also be a chance for CPR certification/training.

It will be a busy and interesting time in Des Moines April 30 to May 2. I'll see you there.

H. Rassekh

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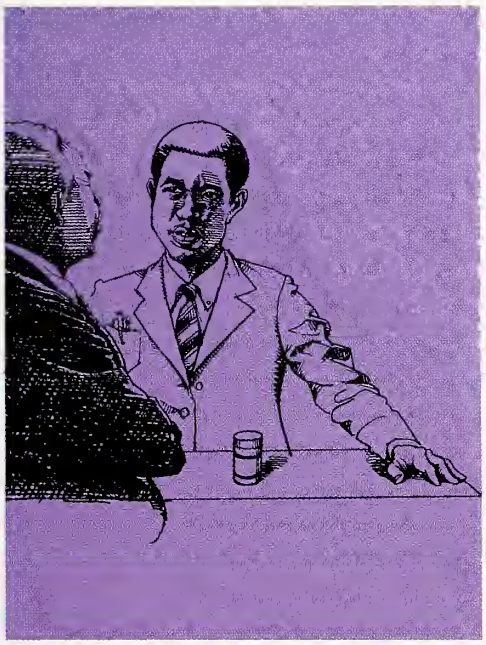
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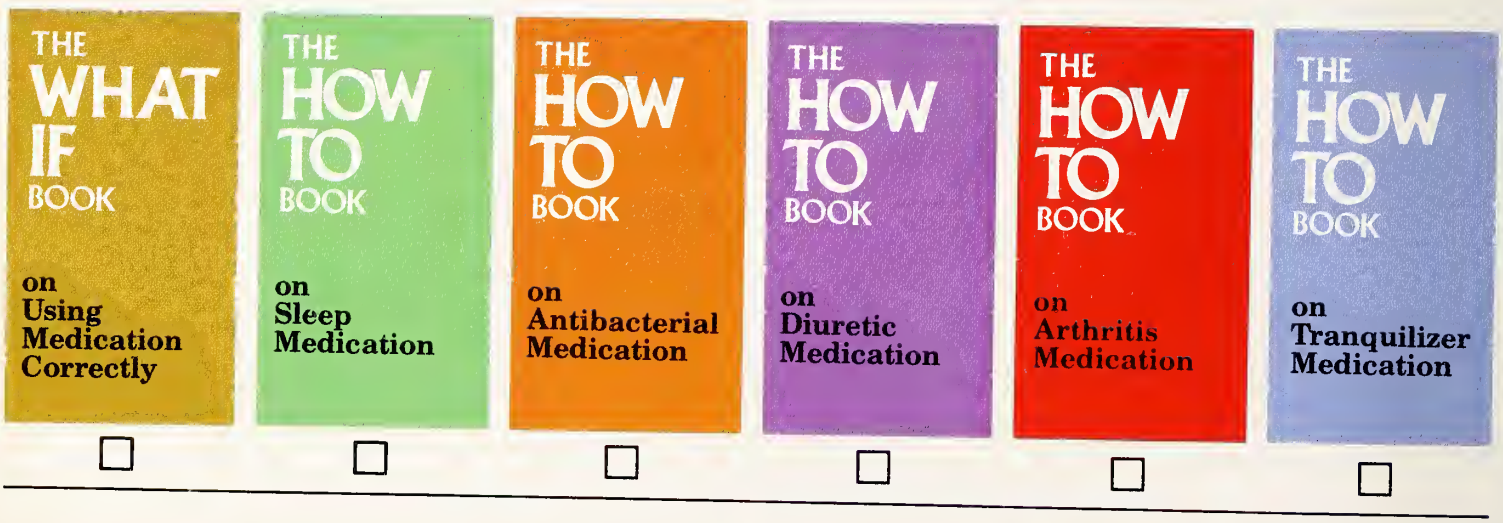
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THINGS YOU SHOULD KNOW

1983 SCIENTIFIC SESSION

For the first time in 10 years, the IMS Scientific Session will occur on the heels of the House of Delegates. The House meets April 30/May 1 and the Scientific Session May 1/2 at the Des Moines Marriott Hotel. The two events highlight the IMS annual calendar. The 1983 Scientific Session emphasizes diversification with program topics covering a broad medical spectrum. Plan to attend. A full program will appear in the March IMS JOURNAL.

HEALTH DATA COMMISSION

Acknowledging the emerging wide support for statutory creation of this commission, the IMS Executive Council approved January 13 a position statement which says, in part, the IMS should work with interested groups to "create...a commission to provide a clearinghouse for meaningful, accurate and reliable data." In its efforts, the IMS is to press for assurance of patient confidentiality. IMS interest in accuracy of the data is uppermost. Also noted with apprehension is the uncertain price tag of the project.

1983 HOUSE OF DELEGATES

February and March are months for the 1983 IMS district caucuses. A caucus schedule appeared in the February IMS UPDATE. These sessions are conducted by the councilors to (1) identify candidates for IMS offices, (2) select representatives to the Nominating Committee, and (3) discuss current issues. A listing of the 1983 offices to be filled, including president-elect, vice-president, trustee, AMA delegate, and AMA alternate delegate, is also in the February UPDATE.

PREADMISSION CERTIFICATION

Approval was given a statement on this topic by the IMS Executive Council in January. The recommendation reaffirms medical staff leadership in peer review to assure quality and cost consciousness. But opposition is expressed to mandatory PAC as the best way to maximize quality. It says IMS support should be for local UR committees that want to use preadmission screening as circumstances dictate.

BIRTH DEFECTS REGISTRY

A state registry for birth defects and genetic disorders was okayed in concept in January by the IMS Executive Council. The registry is a project of the Division of Medical Genetics, Department of Pediatrics, University of Iowa. The idea has been supported by the IMS Maternal and Child Health Committee. Reasons: 1) there is no single repository for this data; 2) the Health Department records are inadequate; 3) there is a need to (a) determine regional services, (b) monitor services, and (c) evaluate the impact. The program will piggyback on the existing Iowa Health Registry (cancer) as it relates to hospitals and physicians.

BLUE SHIELD INFO

An updating on important Blue Cross/Blue Shield matters was given the Executive Council in January. BS Board Chairman E.E. Linder, M.D., said the Blue Cross prospective payment plan, directed by Insurance Commissioner Foudree, is moving forward despite concern over the timetable. The 1982 computer conversion is overcoming its problems and processing goals are being approached. Legislative support will be given to providing a majority of public representatives on the BC/BS boards. BC/BS plans a neutral position on data compilation proposals, expressing concern over confidentiality, cost, etc. Lastly, IPA development activity is running behind earlier schedules.

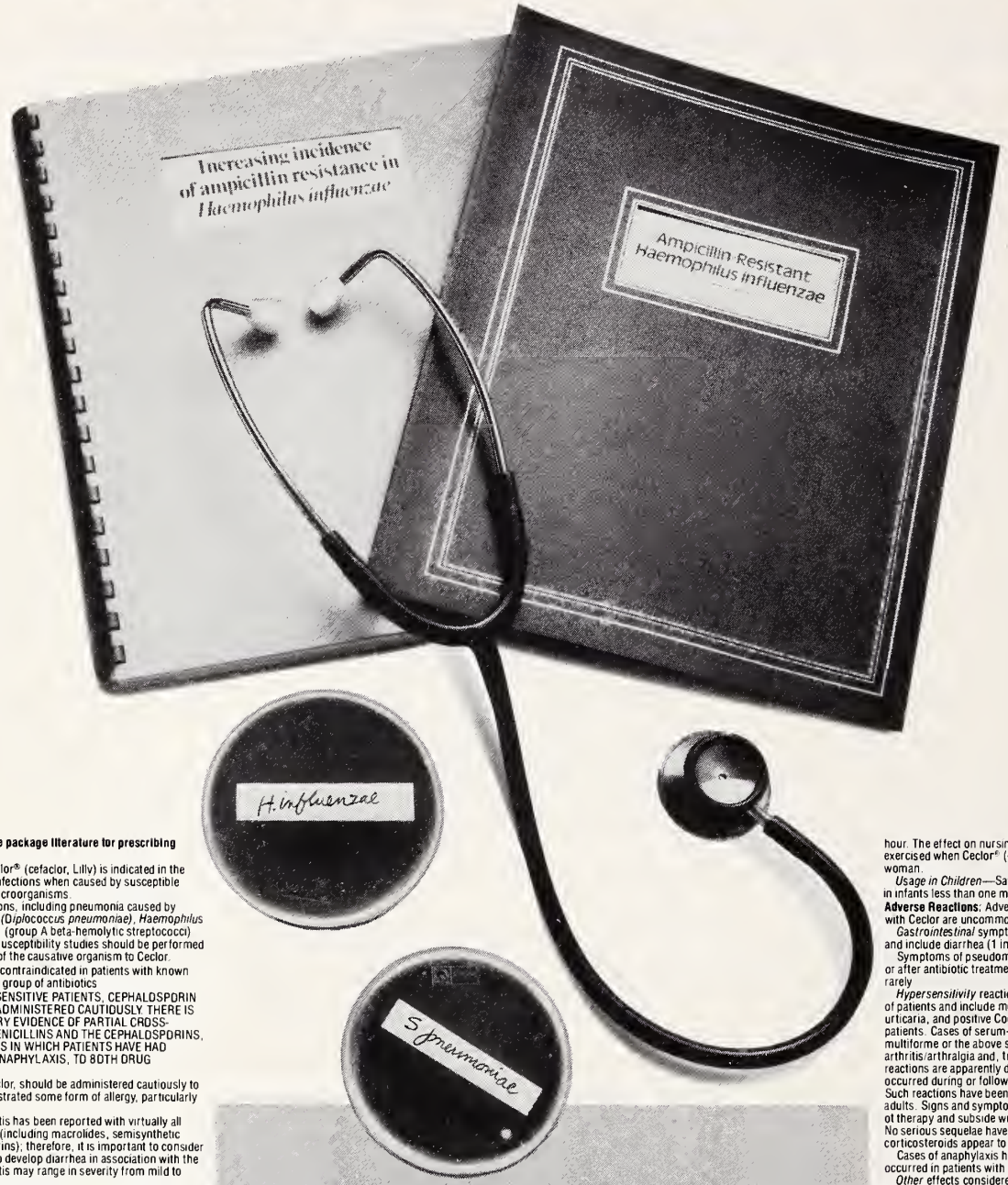
1983 DUES PAYMENTS

1983 IMS dues payments continue to arrive at Society headquarters in good numbers. The pace is consistent with recent years. Reminder: Delinquent status attaches 3/1.

DELEGATION COMMITMENT

We are committed to a delegated system of peer review, R.A. Pfaff, M.D., president, Iowa Foundation for Medical Care, told the IMS Executive Council January 13. We think only physicians are qualified to review the work of colleagues, he said. Effective delegated review takes local commitment, he acknowledged. Reducing unnecessary and inappropriate hospital care without hurting the quality of care is the primary 1983 IFMC goal. Foundation teams have been doing on-site assessments in a cooperative attempt to achieve this goal.

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in terrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGDT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]
Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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QUESTIONS - ANSWERS

WILLIAM G. KENDALL
Des Moines, Iowa

PROMOTING GOOD DRIVING HABITS

The comments here from the director of the Iowa Office of Driver License touch on current important topics related to the promotion of safe driving. They are stimulated by the positive and long-standing relationship between the IMS and the DOT.

There has been a long-standing liaison between the Iowa Department of Transportation and the IMS Committee on Safe Transportation. Has this been useful to the DOT?

The IMS Committee on Safe Transportation is an invaluable asset to the Department of Transportation and in particular the Office of Driver License. The Committee's advice, counsel and support on medical related driver licensing problems have enabled the department to develop sound policies and procedures to protect the interests of both the individual driver and the public.

Could you cite an example or two of your cooperative endeavor?

Perhaps the two endeavors that come most readily to mind are the policies that were developed for the licensing of epileptics and the policy on the use of telescopic bioptic lenses.

What has been the early impact from your standpoint of the new restrictive law covering drunken drivers?

I believe the law has captured the attention of the driving public like no law since the 55 mph speed limit was enacted. Both the public and law enforcement seem to be enthusiastic supporters of the law. While it is probably too early to forecast accurately what the final impact will be, there are early indications that the arrest rate for drunk driving has risen considerably over last year while the alcohol related accident rate has decreased. If arrests continue at the current rate, it appears well over 12,000 licenses will be revoked by next July 1.

Could you describe the DOT driver improvement program which is now in effect?

We are currently in the process of implementing this new program. It consists of an advisory letter sent to all individuals convicted of two moving traffic violations within any 12 month period. The letter advises the individual of the convictions and states that further convictions could result in license suspension. We hope this advisory letter will deter many individuals from accumulating subsequent violations. Persons with three convictions must attend and successfully complete an eight hour driver improvement school at an area community college at their own expense. After completion of the school, they are placed on probation for one year. A conviction during the probationary period may result in license suspension.

Individuals accumulating more than three convictions during a 12 month period must attend a driver improvement interview with a Driver License Hearing Officer. The license may be suspended as a result of the interview.

What current comments do you have about motorcycle helmet use and a return to mandatory usage?

As you know, statistics indicate that mandatory motorcycle helmet use could prevent many serious injuries and fatalities arising from motorcycle accidents. It is difficult for me to see why any cyclist would jeopardize either life or well-being by refusing to wear a helmet.

"Sure I'm concerned, but what can I do about health care costs?"



■ That's a question we're hearing from a lot of Iowans these days, including physicians.

As individuals, our subscribers may not think they can have an impact on health care costs. They know some of the things they could be doing - like maintaining a balanced diet. Getting regular exercise. Keeping fit. Not smoking.

But there's more they can do.

For instance, we're encouraging Iowans to talk to you - their doctor - before undergoing treatment...to ask about costs and cost-saving alternatives such as pre-admission testing and outpatient care.

We're asking them to think twice before using the hospital emergency room as a 24-hour-a-day doctor's office. And we're emphasizing the importance of knowing what their health care program covers.

A more educated public is a first step in keeping costs down. But better communication is a two-way street.

Health care providers can help by talking to their patients about costs, the most appropriate settings for treatment, and staying healthy.

And Blue Cross and Blue Shield have a role to play in emphasizing benefit design which encourages less-costly outpatient care and discourages unnecessary hospital admissions.

Together with the physicians of Iowa and other providers, we **can** control the cost of health care in our state.

Blue Cross Blue Shield
of Iowa
Des Moines/Sioux City



When mild to moderate pain is a side effect of "Fitness"

RUFEN®
(ibuprofen)

measures up... at a reasonable cost!

A Single-Entity Pain Reliever As-Good-As or Better-Than Codeine Combinations

"...particularly effective in soft tissue disorders including sports injuries,"[1] Rufen stops pain at the site of injury and inflammation, not at the level of central perception. There is no dulled sensorium, no special need for warnings about driving or cautions about use of machinery. Your patient gets fast, effective pain relief...potent anti-inflammatory action...excellent tolerance...*plus* the exceptional economy that only Rufen offers. Next time one of your patients asks for pain relief, let Rufen show you how it measures up.

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See next page for brief summary of prescribing information.

Measure RUFEN® (ibuprofen) against "standard" mild to moderate pain

Dental pain and episiotomy pain are predictable, reproducible "standards" that make possible objective comparisons of effectiveness of different analgesic agents.

- Measured against 15, 30 and 60 mg doses of codeine phosphate in a double-blind study of 287 patients, 400-mg doses of ibuprofen proved "significantly better than codeine on almost all pain intensity, degree of relief and duration of analgesia parameters."[2]
- Measured against a propoxyphene-acetaminophen combination for pain relief after 3rd molar extractions, ibuprofen proved equally effective and caused fewer side effects. Ibuprofen was associated with faster recovery, evidenced by more rapid reduction of trismus and return to normal function.[3]
- Measured against post-episiotomy pain in 30 patients, "ibuprofen was effective in treating the swelling as well as pain...during the first and worst days. Therefore, it is not only the analgesic but also the anti-inflammatory effect of ibuprofen that are the beneficial factors..."[4]

Measure RUFEN® (ibuprofen) against any mild to moderate pain

RUFEN	Acetaminophen + codeine combinations
• single-entity, peripheral-acting analgesia	• combined drugs act partly through central opioid pathways
• powerful treatment of both pain and inflammation	• virtually no treatment of the inflammatory component
• better tolerated than aspirin	• combined side effects of two drugs—warning required about driving or operating machinery; possible respiratory depression with alcohol, tranquilizers, other common medications
• no narcotic risk, red tape, records	• narcotic precautions required
• matchless economy in a modern NSAID	



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And Rufen® Measures Up Best

RUFEN® (ibuprofen) Tablets

INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

Relief of mild to moderate pain. Treatment of primary dysmenorrhea.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS: Incidence greater than 1%. Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS). *Incidence 3% to 9%.

Incidence less than 1 in 100. Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses:* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

Causal relationship unknown. Gastrointestinal: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia. Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Dysmenorrhea: 400 mg every 4 hours as necessary.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

CAUTION: Federal law prohibits dispensing without prescription.

Flexible Sigmoidoscopy In Community Practice

JAMES A. PETERSON, JR., M.D., F.A.C.S.
Clinton, Iowa

Fiberoptic (flexible) sigmoidoscopy has proven value in evaluating colorectal disease. This 3-year series of 249 patients shows a 13% rate of polyps; three-fourths of these polyps were asymptomatic, their presence totally unsuspected prior to endoscopy. Almost half of the patients with rectal bleeding had either a polyp or a carcinoma responsible for that bleeding. Other disease can also be assessed more accurately and efficiently than with other instruments. The early use of the flexible sigmoidoscope in appropriate workups is encouraged.

ONE OF THE significant advances in the evaluation of colorectal disease has been the introduction of the fiberoptic (flexible) sigmoidoscope. This report describes a 3-year experience with this instrument. It has been used on a shared basis in the practice of general surgery in a multispecialty group serving a community of 35,000 people.

PATIENT MIX

Patients in this study are from all socioeconomic strata and, except for one child, they range in age from late adolescence to elderly. Repeat examinations were excluded. Of the 249 patients referred for examination, 78% presented with primary symptoms of colon dysfunction and/or abdominal pain, while 11% sought medical attention for visible rectal bleeding. Another 7% were seen for observation of a previous diagnosis of polyps or ulcerative colitis, and in several cases, barium enema had suggested the presence of lesions in the sigmoid colon. A few patients were examined to complete executive physicals or as preoperative workups. Table 1 shows the diagnoses following examination.

In advancing the instrument, we adhered closely to the principle of "1:1," or each cm of insertion producing a cm advance of the tip. The distances, or lengths, recorded were for reference use by the author and not necessarily to compare with the results of others.

TABLE I
DIAGNOSES FOLLOWING ENDOSCOPY

Spastic colitis	123
Normol colon	36
Diverticulosis	36
Polyps	34
Ulcerotive colitis	9
Outright corcinoma	4
Nonspecific colitis	2
Other	16

Figure 1 demonstrates the number of examinations ending in each decimeter of the colon. Upon sedating selected patients later in the series, we were able to advance the scope further with little discomfort.

(Please turn to page 48)

The author is in the private practice of surgery and is associated with Medical Associates Clinic in Clinton, Iowa.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF FEBRUARY 1983

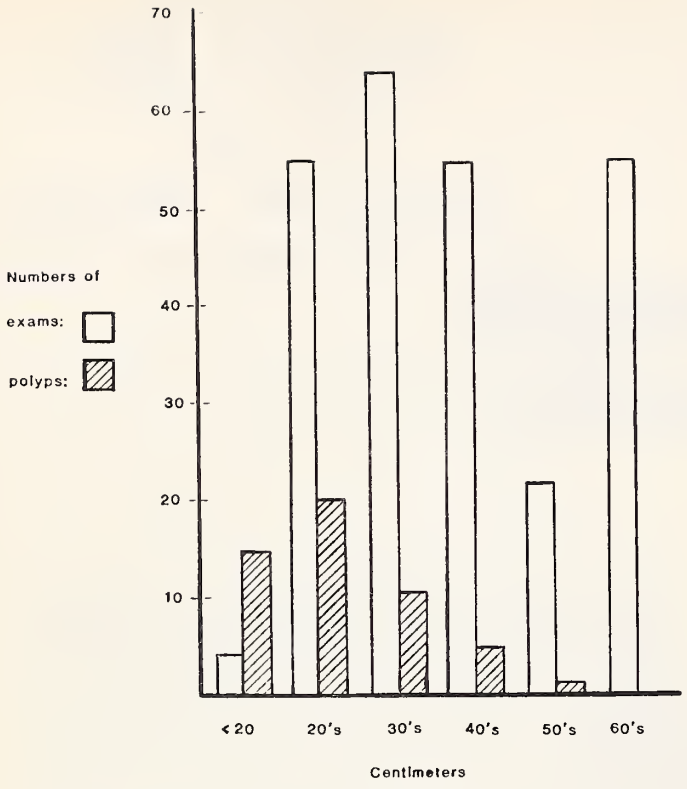


Figure 1. Lengths of examinations and distribution of polyps.

RESULTS

Polyps — 13% of the patients had polyps distributed as shown in Figure 1, the majority of lesions being found in the distal sigmoid colon. There was no correlation with the length of the examinations.

A total of 52 polyps were found (Table 2), most of them being excised, while all but two of the rest were biopsied and cauterized. Two villous adenomas were too large to be safely snared and were removed by colotomy. A few very small (1-2 mm) hyperplastic polyps were simply cauterized. One of the pedunculated lesions was the stalk from what probably had been a juvenile polyp that had sloughed spontaneously.

TABLE II

POLYPS FOUND BY ENDOSCOPY

Type	*Sessile*	*Pedunculated*
Villous adenoma	2	8
Adenomatous	24	4
Hyperplastic	10	0

Six polyps displayed focal atypia in the mucosa and 3 others, each over 1 cm diameter, were reported as carcinoma-in-situ. Two of these 3 were revised to invasive carcinoma upon later colon resection.

Three patients had "inflammatory pseudopolyps" as their only finding. From biopsies early in the series and from the referral of one patient for what appeared to be multipolyposis, we learned to recognize these "pseudopolyps" for what they are: hypertrophied lymphoid follicles that herald the presence of some inflammatory process in the mucosa. These lesions were always multiple, sessile, and followup examinations would demonstrate their disappearance. Thereafter, biopsies of these lesions could not be cost-justified.

Carcinoma — Of the 4 patients presenting with outright carcinoma, all were in the rectum and only one patient had other polyps present as well. One patient had a solitary tumor in which the transition from normal mucosa to adenomatous polyp to malignancy was demonstrated histologically.

Rectal Bleeding — Table 3 shows the identifiable sources of bleeding in the 27 patients referred for that primary symptom. Polyps were found in more than half these individuals, and among them over half were responsible for that bleeding.

TABLE III

FINDINGS IN PATIENTS PRESENTING WITH RECTAL BLEEDING

Diagnosis	*Number*	*Source*
Spastic colitis	11	11
Polyps	15	8
Carcinoma	4	4
Diverticulosis	3	0

Complications — We have had 2 complications and have seen a third from another endoscopist, that case involving bleeding from secondary ulcers after multiple polypectomies and cauterizations. The biopsies/cauterizations had been too deep and brisk bleeding had developed several days later. The problem was controlled by vasopressin infusion and resolved uneventfully. We have had one mucosal tear which required no treatment. The other complication was bleeding after polypectomy for a large, pedunculated villous adenoma. Repeated checks at the time assured us that hemostasis was absolute, yet 36 hours later the patient presented with acute rectal bleeding and shock. After initial resuscitation, open co-

lotomy was performed and the arterial bleeder in the stalk was suture-ligated.

COMMENT

Except for the first few patients, we have used the same mechanical bowel prep as for full-length colonoscopy. Since any fecal coating of the mucosa not only obscures small polyps but makes accurate evaluation of the mucosa itself impossible, the two-enema prep advocated in the literature seriously limits the information that may be gained in the exam.

We have emphasized maintenance of nutrition and hydration, especially in the elderly. By preserving a normal circulating blood volume, patients feel stronger and the occasional patient who requires sedation will tolerate that sedation better. In addition, we have adopted a new definition for constipation: the incomplete emptying of the colon with the bowel movement. Many patients will not admit to straining with the stool and those passing "concrete" are rare. In these patients we recommend a full liquid diet for 48 hours beforehand a) to avoid adding significantly more residue to a colon already known to have delayed emptying; b) to maintain nutrition and hydration; and c) to deliver more water to the left colon for absorption, thereby leaving more water in the lumen "to dilute" the solid stool already present. The results to date have been uniformly satisfactory for examiner and patients alike.

In patients with rectal bleeding, 44% had either a polyp or a carcinoma responsible for that bleeding, a restatement of the long-recognized importance of that symptom. But to have examined *only* those patients with bleeding would have meant finding but a fraction of the patients at risk since only 25% of the patients with polyps bled. In addition, one-third of those same patients had multiple polyps, illustrating that the discovery of the majority of polyps was merely fortuitous. While routine screening for occult blood has been shown to be useful, one cannot presume that *all* polyps bleed, and we probably cannot rely upon such testing to detect all possible lesions. Therefore it is important that all physicians be aware that this examination should often be one of the first steps in a workup rather than an afterthought when all else fails. Those patients proven to have polyps can then be appropriately followed by full-length colonoscopy.

Being part of a given specialty does not guarantee good judgment, but our contention for not having seen more complications with this procedure is that, as surgeons, our approach may be different from others not as familiar with the handling and healing of the colon. This is not to denigrate the accomplishments of nonsurgeon endoscopists, but to illustrate that the more experience one has with these tissues, the less risk there should be of iatrogenic injury to the bowel. We believe flexible sigmoidoscopy should be atraumatic and that there is no place for aggressive manipulation of the instrument. It is designed not to make operations obsolete but to facilitate diagnosis and, where reasonable, to obviate the need for open polypectomy. By not pushing patients or tissues to their limits, there have been no perforations, mesenteric tears, or detectable serosal tears in this series.

"While routine screening for occult blood has been shown to be useful, one cannot presume that all polyps bleed, and we probably cannot rely upon such testing to detect all possible lesions."

As experience with this instrument increases, its value becomes all the more apparent. Depending on the technical skill of the operator and the condition of the instrument, evaluation and diagnosis of the distal colon can be accomplished with an accuracy that exceeds anything attainable with contrast studies in the same area.

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to Rose Ann Smith, R.N., Sharon Marshall, R.N., Elaine Foley, R.N., and Rita Reggelsen, L.P.N., for their assistance with these examinations and their conscientious care and maintenance of the endoscopes.

Mr. Umesh Bhatia assisted with the preparation of Figure 1.

A Point of View

The Physician and Ethical Problems In A Nuclear World

PETER WHITIS, M.D.
Dubuque, Iowa

Nuclear war is the greatest health hazard humanity faces, says the author. He speaks in sobering fashion about the horror nuclear war would bring. He calls any nuclear war a medical catastrophe for which there would be no cure.

RIPPLING THROUGH the consciousness of many Americans these days is the growing significance of Einstein's lament that the unleashing of the power of the atom has changed everything but our way of thinking. He noted that the usual ways of the world in a nuclear age would lead to a catastrophe of unparalleled proportions.

"We are living in a pre-war and not a post-war world," declares Eugene V. Rostow, director, Arms Control and Disarmament Agency. Comments like that, along with "limited" or "winnable" nuclear war, "first strike option," "nuclear warning shot," and "prolonged nuclear war" have served to awaken and alarm the American public to the dangers of a nuclear holocaust.

What is the role of the physician/citizen in such a climate? Is there an ethical obligation for the physician to address this threat to the health of not only his/her patients, but of the entire society and ecosystem? I think there is. Seen in the context of a major health problem, i.e., the last epidemic whose only cure is prevention, physicians and other health related professionals have, I think, a clear obligation to become active in the reduction of this threat. Put succinctly on a bumper sticker, it is "End the Race or End the Race." Physicians for Social Responsibility is a nationwide organization of over 15,000 physicians informing the public that nuclear weapons and human beings cannot long coexist on this planet.

Some physicians feel because it is a political issue, they should not become involved. Yet that argument is flawed because virtually every major epidemic has had political connotations, from malaria control to smallpox irradication to the simple obtaining of a clean water supply.

Physicians and hospital administrators are

The author is in the private practice of psychiatry in Dubuque, Iowa. He is president of the Dubuque chapter of Physicians for Social Responsibility.

already being involved. The Department of Defense is already implementing plans for 50,000 contingency civilian hospital beds, and asking for cooperation from the civilian sector. This plan, known as the Civilian/Military Contingency Hospital System, is to care for injured U.S. military from an overseas war. Significant numbers of physicians and hospital administrators have not agreed to participate in this plan feeling, among other things, that it appears to be supportive of nuclear war preparations.

In the event of nuclear attack on the United States, it is estimated that over 80% of physicians and other health personnel will be killed or injured. This is because our working areas are in the high-density targeted zones. In Hiroshima, where a primitive (by today's standards) uranium bomb of only 13 kiloton (13-thousand tons of TNT) decimated the city, fewer than 30 of the city's 150 physicians were able to attend the thousands of surviving casualties. Of 1,780 nurses, only 126 were able to assist. Not only is nuclear war the gravest epidemic to threaten mankind, but the entire range of health resources, personnel, hospitals, laboratories, pharmacies, communications, transportation, electricity and the social cohesion with which to respond will be deficient or lacking altogether. And so physicians and hospitals are involved, if only as statistics!

One of the ethical questions physicians are pondering at the moment is their role in civil defense, or as it is called now, the Federal Emergency Management Program. Dr. Jack Geiger, professor, Community Medicine at the City College of New York, declares that, "Any physician who even takes part in so-called emergency medical disaster planning specifically to meet the problem of nuclear attack; any physician who even takes part in such an activity is committing a profoundly unethical act. He is deluding himself or herself, colleagues and, by implication, the public at large into the false belief that mechanisms of survival in any meaningful social sense are possible."

In June, 1981, the AMA House of Delegates received a report from its Board of Trustees stating that, "Reasonable Civil Defense preparations could reduce death and injuries by a factor of up to 7," and called for the development of fallout shelters. The delegates voted to reject that report. In its place they resolved, "The AMA recognizes the catastrophic dangers to all life in the event of nuclear war, and supports efforts for the prevention of such a nuclear holocaust." In making this statement the delegates reflected the growing awareness of the medical community that no adequate medical response is possible to cope with the carnage that would result from nuclear war. This position was again confirmed at the AMA annual meeting in June of 1982. AMA Trustee Allen R. Nelson, M.D., wondered, "How many of us have faced the fact that there is no adequate response to a thermonuclear war?"

There are some interesting, perhaps moot, ethical questions for physicians that arise in a post-nuclear attack period. How does the physician survivor handle himself professionally and personally in the midst of a radioactive environment and devastated society? Are all moral/ethical codes left behind, and is personal survival paramount?

"In the event of nuclear attack on the United States, it is estimated that over 80% of physicians and other health personnel will be killed or injured."

What is the responsibility of a handful of physicians facing overwhelming needs? On what basis will scarce medical supplies be distributed? How does one decide between saving the lives of a few or easing the pain of the many? And what about a few months later; is there a place for mass abortions for those pregnant women exposed to radioactive fallout? In Hiroshima and Nagasaki, embryos exposed to radiation *in utero* were born with a great number of malformations. Will euthanasia be part of the physician's armamentarium . . . ? It is expected there will be an intense demand for helping people not to live, but to die.

Regrettably, Einstein was right that everything has changed save our thinking. We cannot put the nuclear genie back in the bottle, but we can and we are changing our thinking. Nothing less than the survival of the human race depends upon it. Norman Cousins, author of *Human Options*, tells us, "Nothing is more powerful than an individual acting out of his conscience, thus helping to bring the collective conscience to life." I believe that. I believe the collective conscience is more powerful than nuclear bombs.

Villous Adenoma Of the Duodenum

T. J. BUNT, M.D., and
W. J. RILEY, M.D., F.A.C.S.

Villous adenoma is a rare entity that follows the apparent high predilection for carcinomatous degeneration displayed in other portions of the gastrointestinal tract. This paper provides an Iowa case study.

SMALL INTESTINAL NEOPLASMS are quite uncommon, representing only one percent of all gastrointestinal tumors; of these, the overall majority occur in the duodenum. However, if the relatively frequent adenocarcinoma is excluded and only benign lesions considered, the incidence of non-malignant duodenal tumors is very small.[1]

Darling and Welch noted only 93 small intestinal tumors in 17,000 autopsies over 45 years at Massachusetts General Hospital.[11] River *et al* collated the literature in 1956 and noted 1,399 small intestinal tumors; 198 of these were duodenal in origin.[4]

Collected series of benign duodenal tumors note the predominant lesion to be the adenoma (34%), with leiomyomas (17.5%) and lipomas (15.6%) being close second. Other duodenal neoplasms include ectopic pancreatic rests (5.9%), angiomas (7.1%), fibromas, hamartomas, carcinoids, and neurofibromas (2%).

Dr. Riley is in the private practice of surgery in Des Moines. He is section chief, peripheral-vascular surgery, Veterans Administration Medical Center, Des Moines, and is clinical assistant professor of surgery, University of Iowa. Dr. Bunt is Assistant Professor of Surgery, University of South Carolina Medical College and Veterans Administration Medical Center, Columbia, South Carolina.

Villous adenoma of the duodenum is an exceedingly rare neoplasm with 44 prior cases being reported in the literature.[11, 12] It was first described by Perry in 1893[5] and later in 1910 by Wechselman,[6] but without confirmatory histology. The first documented case report was given by Golden in 1928[7]; the second and third cases of Bookman[8] and Waters[9] did not appear until 1930. Sporadic case reports have subsequently appeared, with 22 being reported in the past decade.

CASE REPORT

CM was a 63-year-old white male who entered Mercy Hospital Medical Center in Des Moines, Iowa on 3/16/79 with 2 weeks of episodic epigastric abdominal pain that radiated to all quadrants and to the back. The pain was sometimes related to meals, but was not accompanied by nausea, emesis or defined colic. There was no pyrosis, dysphagia, constipation, diarrhea, melena, hematemesis or hematochezia. Past medical history was significant for a diagnosis of "ulcer" being made several years prior without actual diagnostic tests. Physical examination was unremarkable. No masses could be palpated. No buccal melanosis was noted. Admission ECG, CXR and bloodwork were normal. Bilirubin and liver function tests were normal. An UGI (See Figure 1) demonstrated a polypoid filling defect in the third portion of the duodenum, felt to be 10x3 cm in size and nearly obstructing the lumen.

Gastroduodenoscopy was performed on 3/20 and revealed a villous polypoid lesion of the third portion of the duodenum, filling the lumen, but the scope could be passed easily. Multiple biopsies were taken, with pathology returned as papillary adenoma.

On 3/23/79 the patient was taken to surgery. Initial palpation of the duodenum revealed an ill-defined mobile intraluminal mass in the third portion that prolapsed into the 4th portion. A Kocher maneuver was performed, followed by longitudinal lateral duodenotomy. The mass was 8-10 cm long by 4 cm wide and filled the lumen; its surface was velvety, the base was broadly sessile and arising from the lateral and posterior wall. Resection locally was accomplished, with a section of the posterior duodenum being taken. Two layer closure of both duodenotomies was accomplished. The postoperative course was uneventful; he was discharged on 3/31 and has since been seen in the office, asymptomatic.

Final pathology revealed (See Figure 2) a villous adenoma with abundant mitoses, but no carcinomatous degeneration.

DISCUSSION

Symptoms: The symptoms of a villous adenoma of the duodenum are not particularly specific; often they have been longstanding and of sufficiently ill-defined nature as to preclude either that a physician be sought, or that a diagnostic test be undertaken. The 2 most typical clinical presentations of the 45 cases in the literature have been occult gastrointestinal bleeding, or upper abdominal pain suggestive of a partial high obstruction. However, cases have presented with fulminant upper gastrointestinal hemorrhage, obstructive jaundice, and even spontaneous rupture of the common bile duct due to obstruction of the sphincter of Oddi.[12] The age range has been from 18 to 76 years, with an average age of 57.



Figure 1. Barium upper gastrointestinal series demonstrating a polypoid intraluminal mass in the third portion of the duodenum.

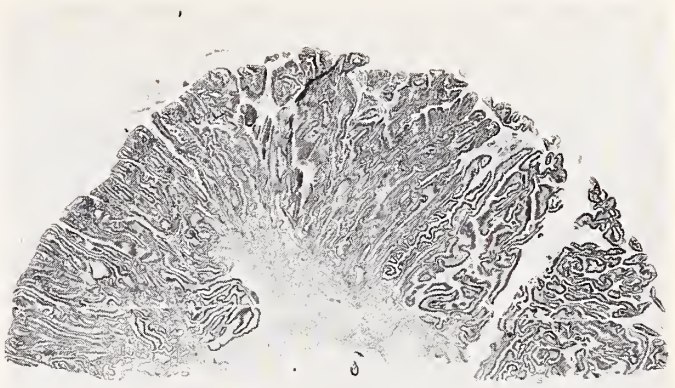


Figure 2. Photomicrograph demonstrating one section of the excised polyp.

Diagnosis: The cornerstones of the diagnosis are the upper gastrointestinal series, and gastroduodenoscopy. On the UGI, the villous adenoma presents a characteristic "mousse de savon," or soap bubbles, appearance in a supple duodenum without extrinsic compression. Questionable cases can be confirmed by hypotonic duodenography. The majority of the tumors are within the reach of the gastroduodenoscope (only 3 of the 45 reported cases have been in the 4th portion of the duodenum). Biopsies can be taken to confirm the apparent villous nature of the polyp; however, surgical intervention will still be necessary since carcinomatous degeneration may be present, and even if not, the malignant potential of the villous adenoma is significant.

Malignancy: The villous adenoma elsewhere in the gastrointestinal tract has an established reputation for malignant degeneration, with the risk of malignancy increasing geometrically with increasing size.[1] The villous adenoma of the duodenum appears to share that malignant potential. Sixteen of the 45 cases (36%) showed carcinomatous changes; subtracting the 6 focal or in-situ carcinomas gives a 22% incidence of invasive carcinoma.

(Please turn to page 54)

Significant clinical indicators of malignancy include age (all patients were over 50); site (50% were in the 2nd portion of the duodenum); and the presence of significant clinical symptoms. Ninety percent of those patients presenting with jaundice, showed carcinomatous degeneration. Eleven percent (5 of 14) of those patients with obstruction or pain, and 13% (6 of 22) of those with bleeding were subsequently proven to be carcinoma. The common denominator to all of these is size and, therefore, probably longevity of the lesion. Larger tumors would tend to ulcerate, tend to obstruct the lumen, or obstruct the papilla causing jaundice.

Pathology: Villous adenomas of the duodenum are characteristically very large polyps, averaging approximately 5x3 cm. They are broad-based sessile polyps but may freely prolapse into adjacent duodenum or over the papilla of Vater. The surface texture is velvety due to numerous papillary fronds. Histologically they arise from the mucosa and have a fibrous stalk on which are arranged numerous papillary projections alternate with deep clefts.

Treatment: After appropriate radiologic and endoscopic diagnosis, surgical intervention is necessary. Local resection is preferable if the base of the polyp permits; however, lesions in the second portion may infringe on the papilla, common bile duct, or pancreatic duct, making local resection hazardous. Similarly, lesions in the 4th portion may be difficult to approach due to the proximity of the superior mesenteric vessels.

The initial maneuver is a thorough Kocher maneuver to mobilize the entire head of the pancreas and its enveloping duodenal sweep. For 4th portion lesions a Cattell maneuver[13] may be necessary. A longitudinal duodenotomy is then made over the lesion, and the luminal surface exposed. If no frankly apparent carcinomatous degeneration is present, and the anatomy allows, local resection can be attempted. The proximal and distal mucosa are elevated with tacking stay sutures. Resection of the polyp and a small rim of normal mucosa is then performed, while sequentially closing the mucosa behind with a running absorbable suture. If the complete duodenal wall is resected closure is obtained in 2 layers.

More radical resection might well require a formal pancreatoduodenectomy, or might be accomplished by local enteric patch with or without duodenal diverticulization.

Frozen section should be obtained before closure of the duodenotomy, and consideration given to more radical resection if invasive carcinoma is found. The situation is analagous to the more commonly appreciated situation, a villous adenoma of the distal rectum, in which an abdominoperineal resection might be required. The situation then becomes a matter of surgical judgment, weighing the relative risks of the radical procedure against the possibility of leaving behind residual carcinoma.

Follow-up gastroduodenoscopy is imperative, to ascertain that there is no recurrence of the villous adenoma or focal carcinoma. Long term results of the 45 cases in the literature do not permit any definitive judgments since the follow-up is limited.

SUMMARY

The villous adenoma of the duodenum is a rare entity that follows the apparent high predilection for carcinomatous degeneration that villous adenomata of other portions of the gastrointestinal tract display. Surgical resection is complicated by the adjacent anatomy, but can usually be accomplished locally. Follow-up gastroduodenoscopy is imperative.

REFERENCES

The references noted in this paper are available on request either from the JOURNAL OF THE IOWA MEDICAL SOCIETY or the authors.

1983 NOMINATING COMMITTEE

The 1983 Iowa Medical Society Nominating Committee will meet Sunday, March 27, at IMS headquarters to develop its slate of officers to be submitted to the House of Delegates in Des Moines April 30. The Nominating Committee is composed of one representative from each of the 13 IMS councilor districts who are chosen at the district caucuses.

Any candidates for election to the several 1983-84 IMS offices should be reported to your district representative for presentation at the March 27 meeting of the Nominating Committee.

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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

FOOD FOR THOUGHT— AND THE PATIENT

In treating a patient, let your first thought be to strengthen his natural vitality. RHAZES, 850-923 A.D.

During the same times the Art of Medicine must be divided into three parts: one being that which cures through diet, another through medicaments, and the third by the hand. The Greeks termed the first dietetics, *the second* pharmaceutics, *the third* chirurgics. CELSUS, 25 B.C. — 50 A.D.

MODERN MEDICINE is very complex. Yet the human body remains unchanged. So, in our progressive culture, the art of medicine must be concerned with the proper use of the tools we have, as we treat what is essentially a constant form of living being.

Disease, wearing everchanging masks, continues to challenge the physician. The primary difference between the past and today is in the way we recognize the specific disease entity and the way we treat it. There has been little change in the art of medicine since the time of Celsus in Rome and later of Rhazes in Persia. Their admonitions are still valid.

Recent critical studies have been made as to the maintenance of the patient's proper nutrition. Consequently, there have evolved new ways of providing nutrition for the very ill person. Intravenous fluids have been improved, and the techniques of total parenteral feedings have become modern and standard. These forms of providing nutrition to the severely ill and to postoperative patients are well understood by the average physician.

However, when the patient enters the hospital and does not need any of these forms of providing nutrition, there is a different approach. The physician often abdicates his responsibility. How? The written dietary order is vague and nonspecific — "general diet" — "soft diet" — "diet for age" for the child patient, and the like. The patient who has diabetes mellitus is considered in a more specific fashion, at least in ordering specific percentages of protein, fat, and carbohydrate. Beyond that, the patient is in the hands of the dieticians, or in a smaller hospital, perhaps only a cook who must operate within a specific budget.

The public is diet conscious, as is obvious by all the interest in dietary fads and fancies. Numerous diet books are available to support the advocates of various regimens. Each city has its diet management centers, as well as stores which sell items thought to improve the dietary intake of the follower of any given discipline.

Fashion magazines and publications for teenagers often are a source of diet advice. Increasing numbers of adolescent girls are afflicted with anorexia nervosa as they become caught up in different misconceptions as to dietary needs. These girls often quote excerpts from such magazines, and are quite knowledgeable about the caloric content of various foods.

In our daily lives we are becoming more and more obsessed with concern for the ideal diet. Despite this public awareness, the medical profession remains more or less aloof to the need of the patient and apparently too often leaves the food intake, other than certain admonitions, to ancillary personnel or even to the patient's own desires. It is not surprising, then, that our patients patronize other sources (books, magazines, centers, cults) to satisfy their own need for diet management. They are misdirected in many instances when they seek help.

The medical profession should be more responsive to this need. The student of medicine needs more instruction in dietary management. The practicing physician must consult more frequently with the dieticians. Proper dietetics will enhance pharmaceutics, and the physical aspects of medical care (chirurgics) will be enriched by both. This is the art of medicine that the patient expects and deserves. — M.E.A.



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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

RUMINATIONS ON BASIC SCIENCE COURSES

WHEN DID YOU LAST think about your "basic science" courses? Do you recall or use information learned in histology or microbiology? Or were you so traumatized by those courses that you find it unpleasant to think back to them even now, when I ask you to do so? It might be fun to dig out your college transcript to see if you recall anything whatever about *each* course on the list — all the way from freshman English to senior obstetrics. Can you remember the teacher's name or bring to mind his or her face? Can you recall a single fact learned there? Did you come away with an attitude that has made even a slight difference to you? Which courses in that long list would you now say were valuable? Are there a few that at the time you were willing to call "totally worthless" which no longer seem that bad?

Eugene Stead, formerly head of internal medicine at Emory and Duke, and long considered one of this country's most distinguished medical educators, recently wrote about the role of basic science faculty in the medical school:

In the instruction of medical students, the real uses of the basic science faculty are to reinforce the liberal education that, one hopes, the student acquired in college, to encourage greater language competence among the students, and to show how various disciplines approach the solution of problems. The basic science faculty are not there to stuff the heads of medical students with innumerable facts that will be forgotten as soon as they pass Part 1 of the National Boards. They are there to give joy to the learning, to reinforce patterns of satisfaction gained from intellectual effort, and to create a research environment that brings doctors back to their basic science laboratories after they discover how frequently the unknown prevents useful clinical activity. In all honesty, I cannot identify any particular content that the basic science faculty has to teach to allow a doctor to practice medicine.

Among his words are six and only six roles for basic science faculty. None of them says anything about the *content* of the courses, because in an earlier sentence, he'd said that "the content of the basic science years is not very important." Does that mean that one should teach a "content-free" course? No, one cannot. But the content, Stead implies, should be the *means* to attain the loftier purposes, not an *end* in itself. (As so often, the relationship between means and ends gets tricky.)

How would Stead's idea translate to the actual conduct of the course? Perhaps this — that each statement made, if a statement of fact, be measured as a means of attaining one of his six goals, and in no way be deemed necessary as a fact *to be remembered* simply because true. In clinical courses certain facts may be more needed because they apply directly to clinical behavior. Yet, can it be argued that an order to measure a pateint's blood glucose is *not* the direct application of information from biochemistry? After all, in a biochemistry course one learns that glucose is found in the blood, and also what happens to the patient if the glucose rises or falls, what regulates the amount, what diseases disturb the normal amount and via what mechanisms, and what therapeutic maneuvers will restore and maintain a physiologic quantity. Maybe Stead's point is that one may properly teach these facts in a biochemistry course, but *not in order that the student, as transformed later into a physician, will know those facts*. Rather, it would be so that that later physician, because of his biochemistry-course-induced joy at learning and problem-solving and his desire to best help the patient, will want to know whatever truths are known and applicable at that later date. I've heard physicians say they use *nothing* from their freshman biochemistry course. They have to be wrong, because all physicians undoubtedly use at least some of its *vocabulary*. The edifice of our knowledge is built of a great many individual bricks; it's hard to remember the source of each one.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

REFRESHER COURSE FOR THE FAMILY PHYSICIAN March 1-4

The 1983 Refresher Course for the Family Physician will occur in Iowa City March 1-4. It is sponsored by the University of Iowa College of Medicine Office of Continuing Medical Education and the Department of Family Practice and the Iowa Academy of Family Physicians.

The FP Course is accredited for 27 hours by the American Academy of Family Physicians and for the same amount of Category I credit toward the AMA Physicians' Recognition Award. The University of Iowa awards 2.7 continuing education units for the full program. Additional information is available from the Office of Continuing Medical Education, U. of I. College of Medicine, Iowa City, Iowa 52242.

The 1982 Refresher Course will provide a practice-oriented look at what is new in medical thinking, and a chance to brush up on what is old. Practical applications will be emphasized. Brief lectures, panels, small-group discussions and workshops, question and answer periods, lunches with the experts, printed course syllabuses, self-assessment quizzes, basic CPR certification — all of these will be available in a fast-moving educational program.

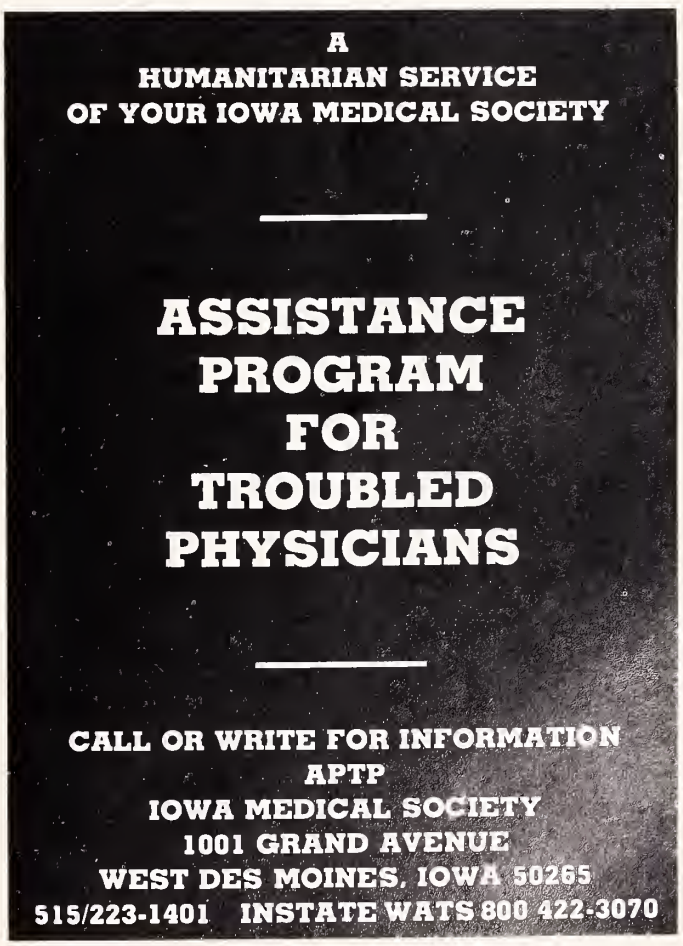
Registrants not now certified in basic cardiopulmonary resuscitation, are urged to become so certified at the Refresher Course.

Complete physical examinations will be available again this year. They are offered at no additional charge and will be performed by members of the Department of Family Practice in their clinical quarters. They must be scheduled in advance. To allow for scheduling arrangements, a February 20 registration deadline has been established for those physicians who wish this examination.

Topics on the 1983 Iowa City program include: *Identifying the Patient at Risk for Cardiovascular Disease, New Concepts in Managing Peptic Ulcer Disease, Analyzing Physician-Patient Interactions Where Potentially Traumatic Information Is Involved, Developing and Guiding Hospice Programs, Ethical Issues in Reproductive Medicine, Industrial and Agricultural Intoxications, Marvel #1: The Fiberoptic Bronchoscope to Treat Lung Tumors, Critique of Major New Drugs This Year, Uses of Computers in Family Practice, Common Pediatric Infections, Marvel #2: "Invasive Therapy" in Radiology, Personal Stresses on Physicians and Their Families, Indications and Proper Use of Anticoagulants, Marvel #3: In Utero Surgery on the Fetus, Controlling Hospital-Acquired Infections, and The Impact of Cancer on the Family.*

A special program will be offered again this year for physician spouses who are nurses and who may wish some accredited nursing education. The University of Iowa will award a 0.3 continuing education unit for the morning program on March 1 entitled, "Menopause," and the afternoon program entitled, "Counseling the Hypertensive Patient"; also for the program on March 2 entitled, "Current Trends in Infant Feeding/Breast Feeding." A 0.6 CE unit will be awarded for the program on March 3 entitled, "Common Health Concerns of the Adolescent."

Registrants' spouses are cordially invited to attend all programs. The FP Refresher Course begins at 8:15 a.m., Tuesday, March 1, and continues until 3 p.m., Friday, March 4.



DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

METHANOL POISONING

METHYL ALCOHOL (methanol, "wood alcohol") poisoning is a clinical problem which persists despite widespread knowledge of its toxic properties. Most cases are caused by accidental poisoning, although it is occasionally used in suicide attempts. It is not uncommon to have epidemics of methanol poisoning where a group of people have ingested a common contaminated source; in the past, methanol was used to cut contraband whiskey, but this source is rare now.[1, 2] Methanol is also found in organic solvent mixtures, in products such as Sterno, duplicating machine fluids, and in gasoline as a fuel extender. Toxicity may occur after gastrointestinal, pulmonary, or percutaneous absorption. The maximal safe concentration in air is 200 parts per million.

Recognition of the characteristic clinical picture and prompt treatment may be hampered by vigorous denial of drinking illicit alcohol or any alcohol by the victim.[1] The clinical syndrome and laboratory findings should be sufficient to initiate treatment even in the face of such denial since the alternative is blindness or even death.

There is *individual variation* in the clinical presentation subject to the amount of food in the patient's stomach, the quantity of methanol consumed, and the quantity of ethanol consumed. Individuals with folate deficiencies may be more susceptible to intoxication. Quantities of methanol as small as 4 cc have been reported to cause blindness, but there are reports of the consumption of as much as ½ liter of methanol without residual ill effects. In addition to denial, this variable individual susceptibility to the toxic effects of methanol may be another source of confusion in small outbreaks.[1, 3]

SYNDROMES OF METHANOL TOXICITY

The characteristic syndrome is represented by (1) a *latent period*[1-3] of 12-48 hours followed by (2) a severe *metabolic acidosis*[1] and (3) *visual loss*.[2, 4, 5] A typical clinical picture of methanol poisoning is that of a group of persons who drank together 12 to 48 hours before the onset of nausea, vomiting, abdominal pain, and visual loss. Severe metabolic acidosis may follow or occur concomitant with visual changes. Laboratory examination will reveal severe metabolic acidosis and may show enzyme changes consistent with pancreatitis.[1]

The latent period can be explained as that time required for methanol to be converted to toxic metabolites which are responsible for the characteristic syndrome. Thus, there may be no direct correlation between blood methanol levels and the severity of the toxic illness; rather the amount of formic acid appears to explain most of the symptoms and signs seen in the disease. It is interesting that *only* humans and monkeys develop methanol poisoning.[4, 5] Other species appear to be insensitive to its effects.[6]

During the latent period, formic acid accumulates and a compensated metabolic acidosis develops. Then, when bicarbonate levels are depleted sufficiently, severe uncompensated *metabolic acidosis* occurs with marked depression of blood pH to as low as 6.9.[1] Formic acid accumulation is presumed to be responsible for the *ocular toxicity*. Monkeys treated with formate developed optic disc edema; studies revealed a blockade of axoplasmic flow in the

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proximal optic nerve. Mitochondria accumulated, and there was swelling of the axons in the region of the optic disc.[4] Administration of formate in monkeys whose pH was kept at 7.4 resulted in blindness despite the absence of acidosis.

SYMPTOMS AND SIGNS

1. Visual disturbances[2] may be the only presenting symptoms or constitute a major symptom in almost all patients. Blurring, spots, a "skim," "brightness," or total loss of vision are in the spectrum of visual complaints. Any patient who complains of dimming of vision, or loss of vision after a bout of drinking should be suspected of methanol poisoning. Visual acuity is depressed, and the pupils respond poorly to light. Fundus findings include hyperemia, elevation of the optic discs, and/or striking retinal edema. The retinal edema develops over two to four days and may persist for up to two weeks.[2, 4]

2. Central nervous system symptoms range from a sensation of hangover to coma. Manic reactions; "pseudomeningitis" with vomiting, stiff neck, headache, and coma; confusional state; lethargy; stupor and coma have all been reported. Characteristic Kussmaul breathing seen in metabolic acidosis is frequently absent. Patients who are awake may complain of headache and most will have nausea and vomiting, although persistent vomiting is rare.[1]

3. Severe upper abdominal cramping pain and boardlike rigidity of abdominal muscles is often seen, and patients may develop pancreatitis.[1]

The diagnosis of methanol poisoning is made by demonstrating the presence of methanol in the blood at levels of 50 mg/dcl or more, usually but not invariably coupled with a moderate to severe metabolic acidosis. Most laboratories are not equipped at this time to determine presence of formate.

TREATMENT

Hemodialysis[3] should be instituted immediately. Since methanol and its metabolites are water soluble, there is no need for the imposition of charcoal filters, and, indeed, certain studies have demonstrated that these complicate treatment and retard the removal of methanol (and formate from the blood). Dialysis should be employed until the blood level of methanol is less than 50 mg/dcl. Correction of the metabolic acidosis with *sodium bicarbonate administration* may require much larger quantities of sodium bicarbonate than usually calculated if the PH is very low.[7] Recently it has been demonstrated that folic acid or 5-for-myl-tetrahydrofolate (Leucovorin) increases the rate of formate removal from the blood of monkeys.[8] While this treatment has both prevented and reversed methanol poisoning in primates it has not been tested and shown to be clinically effective in human beings. Nonetheless, large doses of *folic acid* can be given to the patient without danger while hemodialysis is being prepared. Since folic acid therapy is not yet proven effective in human beings it should not replace hemodialysis. Often *ethanol*[9] is used in conjunction with other forms of therapy. Ethanol competes with methanol for alcohol dehydrogenase, which is the liver enzyme responsible for the oxidation of methanol. Since ethanol is metabolized about seven times faster than methanol, initial levels of ethanol should be high (sufficient to achieve 100 mg/dcl in the blood) followed by repetitive administration of ethanol until the methanol blood level is at or below 50 mg/dcl.

In cases of severe intoxication, general supportive care will be necessary.

CONCLUSIONS

Methanol poisoning may occur sporadically or in epidemic form and should always be considered where visual loss follows a bout of drinking. Laboratory evidence of metabolic acidosis should immediately suggest this type of poisoning, and the presence of methanol in the blood confirms the diagnosis. Emergency treatment with sodium bicarbonate, hemodialysis, and ethanol are currently used, and, if instituted early in the intoxication syndrome, they can be lifesaving. Humans and monkeys are especially sensitive to methanol poisoning, whereas other animals are relatively resistant to its toxic effects. The unique sensitivity of humans and monkeys probably rests in a peculiarity of folate biochemistry which renders them inefficient at converting metabolites of methanol, such as formic acid, to carbon dioxide. — *James J. Corbett, M.D., Department of Neurology, and Thomas R. Tephly, M.D., Ph.D., Department of Pharmacology*

(References listed on page 64)

STATE DEPARTMENT/ PUBLIC HEALTH

OVERVIEW OF THE HEALTH DATA COMMISSION

This discussion has been prepared by: Norman L. Pawlewski, Commissioner of Public Health.

RAPIDLY RISING HEALTH CARE COSTS and the attendant increases in health insurance premiums have led to a call for action. Purchasers, providers and the general public all agree that changes must be made in the way that health care is delivered and financed. One of the critical ingredients is improved *health data and information.* This data is needed to clearly identify problems, the first step in developing solutions.

The Governor's Commission on Health Care Costs devoted a section to this issue. It found that more usable and complete health data are needed to "stimulate a price-competitive environment." The principles listed below are from the Governor's Commission report.

Principle I: *Additional data and information are needed by providers, purchasers and the general public to improve the cost effectiveness of health care services. Both price (charge) and utilization data should be compiled and disseminated on a routine basis. State legislation will be needed to insure that data of this type are available, timely and comparable.*

Principle II: *To avoid additional costs of collecting data, the additional data needs should be met, to the extent practicable, by compiling and analyzing data and information currently being collected.*

Principle III: *Individual patient's identity must remain confidential. Data identifying individual providers should not be confidential. Comparative data and information on individual providers that will improve decision making should be available to providers, purchasers and the general public.*

The report goes on to say that: "Providers of care will be able to make comparisons on the efficiency with which they treat various cases. Purchasers and consumers need this type of information to be able to seek out and use cost effective providers."

The *public accountability and scrutiny* that will result from the dissemination of this type of information will provide the environment necessary for many of the voluntary efforts to succeed.

An assessment of the types of data currently collected by insurance companies and hospitals showed the relevant data are being collected. The issue is one of making that data available for health care cost management. *Legislative action is needed* to ensure that voluntary and private sector initiatives, as well as public sector activities, have the information needed to develop the solutions to the health care cost spiral. Purchasers and providers will develop those solutions if they have the necessary information. The "public accountability and scrutiny" that will result from the dissemination of this type of information will provide the environment necessary for many of the voluntary efforts to succeed.

COMMISSION AND CLEARINGHOUSE

The purpose of the bill is to ensure that the relevant health price and use data are available, compiled and distributed. The mechanism to achieve this goal is to create an *Iowa Health Data Commission.* It would consist of the commissioners of the following State Departments: Health, Insurance and Social Services and the chairperson of the Health Policy Corporation of Iowa.

The Commission would oversee the development of a health data clearinghouse. The members of this commission would be authorized to establish the necessary administrative rules in each of their respective departments to insure the availability of the necessary data. In addition the Commission must report back annually to the legislature relative to the status of implementing this clearinghouse, the assessment of its use and impact and to make

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recommendations on any additional legislation that may be required.

This health data would be provided to the Health Policy Corporation of Iowa (HPCI) which would serve as the *clearinghouse* of health data and information. HPCI would provide the staff and funds for the clearinghouse and staff support for the Commission. Two committees of HPCI, the Data, Research and Policy Analysis Committee and the Communication and Coordination Committee would oversee the preparation and dissemination of the reports and information. These committees are broadly representative of purchasers, consumers and providers of health services. Under this leadership, the clearinghouse would develop reports and information in a timely, objective and usable manner.

The *Governor's Commission on Health Care Costs* identified the creation of a *health data clearinghouse* as a *top priority. In fact, three of the 10 top priorities are addressed by this legislation.* It is designed so that the data currently collected would be made available for health cost containment efforts. The key mechanism is the creation of a Health Data Commission. This Commission would coordinate collection of data from third party payers and health providers. The Health Policy Corporation of Iowa would serve as the data clearinghouse, providing the staff and funding for the effort. This cooperative public and private sector approach will ensure both public accountability and representation from the various interest groups.

In summary, the Commission and the clearinghouse will have public accountability, protect patient confidentiality, and generate needed data and information in a cost-effective and responsible manner.

IMS COMMISSION POSITION

This position on a State Health Data Commission was adopted by the IMS Executive Council January 13, 1983.

The Iowa Medical Society has historically supported voluntary efforts to address any problems that may exist in areas of quality, access, and cost of health care. The Society has pursued and supported voluntary efforts to make available appropriate data on both cost and utilization of health care which would permit physicians, hospitals, third parties, purchasers and consumers to have information which would permit them to make reasoned judgments as to utilization and cost. It has been a long-standing principle of the IMS that physicians discuss their fees with their patients.

The IMS recognizes the growing interest of all the above-named parties in health care costs, and in the collection of pertinent health care data. It acknowledges the comprehensive study of the Governor's Commission on Health Care Costs. It is also well aware of legal problems involved in a strictly voluntary approach to collecting health care data.

For these reasons, IMS officers and appropriate committees will work with all interested groups to develop legislation to create a State Health Data Commission to provide a clearinghouse for meaningful, accurate and reliable data.

Such legislation should, as its first priority, protect "patient confidentiality," and assure that information on the treatment received by an individually identifiable patient not be released, under any circumstances, to the State Health Data Commission. It should be made clear to the public that information on care rendered to individual Iowa citizens is being collected for purposes of addressing issues relating to health care costs and utilization.

Further, the legislation should assure that any data on utilization and cost that is to be made widely available must be accurate. The evaluation of the data collected should be accomplished through a process that ensures proper medical analysis and interpretation. To this end, individual hospitals and physicians should have an opportunity, through due process, to review, comment, and where necessary, correct any individually identifiable information that is to be made public by the Health Data Commission.

The IMS strongly believes the establishment of a State Health Care Data Commission should not result in higher administrative expenditures by the State of Iowa, third parties, or providers. Such a result would be counter productive, with a net effect of increasing, rather than decreasing, costs related to health care.

DRUG THERAPY REVIEW

(Continued from page 61)

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December 1982 Morbidity Report

Disease	Dec. 1982 Total	1982 to Date	1981 to Date	Most Dec. Cases Reported From These Counties
Amebiosis	7	76	24	Scottered
Brucellosis	0	5	7	
Chickenpox	692	7175	8651	Dubuque, Des Moines, Polk
Compylobocter	31	353	186	Scott, Linn, Woodbury
Cytomegolovirus	5	45	29	Johnson, Sioux, Worth
Eoton's Agent infection	45	312	62	Polk, Linn, Winneshiek
Encepholitis, virol	10	55	35	Johnson, Allomokee, Bremer
Erythemo infectiosum	0	247	1206	
Gostroenteritis (GIV)	1685	12829	18299	Linn, Polk, Pottowottomie
Giordiosis	38	204	141	Johnson, Montgomery, Polk
Hepotitis, A	3	79	217	Bremer, Henry, Woodbury
Hepotitis, B	13	94	94	Polk, Scott, Jones
Hepotitis, Non A-B	0	17		
Hepotitis type unspecified	2	30	59	Dovis, Jockson
Herpes Simplex	72	527	250	Johnson, Polk, Scott
Herpes Zoster	1	13	8	Linn
Histoplosmosis	1	16	17	Worren
Infectious mononucleosis	20	199	299	Linn, Block Howk, Muscotine
Influenzo, lob confirmed	0	74	191	
Influenzo-like illness (URI)	5091	42792	65589	Johnson, Linn, Pottowottomie
Legionellosis	1	24	25	Allamokee
Molorio	0	8	6	
Meningitis oseptic	9	102	74	Polk, Grundy, Iowo
bocteriol	15	170	143	Coss, Allomokee, Butler
meningococcol	1	13	27	Polk
Mumps	14	65	94	Floyd
Pertussis	0	9	9	
Robies in onimols	25	390	889	Cedor, Josper, Poweshiek
Reye Syndrome	0	5	7	
Rheumotic Fever	0	3	10	
Rubello (Germon meosles)	0	0	5	
Meosles	0	0	1	
Solmonellosis	29	333	276	Block Howk, Chickosow, Honcock
Shigellosis	2	69	40	Boone, Pottowottomie
Tetonus	1	5	0	Tomo
Toxic Shock Syndrome	3	19	29	Crowford, Jefferson, Linn
Tuberculosis totol ill	5	73	88	Polk, Cerro Gordo, Story
boct. pos.	5	55	59	Polk, Cerro Gordo, Story
Tuloremio	1	4	1	Worren
Typhoid Fever	0	1	3	
Venereol diseoses: Gonorrheo	529	4868	5283	Polk, Scott, Linn
Syphilis	3	34	38	Johnson, Polk

Loborotory Virus Diagnosis Without Specified Clinicol Syndrome: Adenovirus — 2, Linn, 2, Polk, 1, Hordin, 1, Scott, 1, Sioux, 1, Woodbury; Hookworm — 1, Clinton; Ascoriosis — 1, Johnson; Trichurio — 1, Johnson; Coxsockie — 1, Linn, 1, Lyon; Clonorchis — 1, Story.

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NEWS/PRODUCTS, PROGRAMS, ETC.

Information on various products, programs, etc., is received regularly by the IMS JOURNAL. *Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the* IMS JOURNAL.

HERPES MEDICATION — Zovirax®, an antiviral drug discovered and developed by Burroughs Wellcome Co., has been approved by FDA recently for use against initial infections of herpes genitalis and to manage localized herpes infections in patients whose natural defenses are impaired and unable to control the spread of the infection. The product is available on prescription as an ointment.

BACTERIA FIGHTER — Pall Biomedical Products Corporation, Glen Cove, New York 11542 (telephone 1-800-625-4242) has announced the availability of their new high efficiency disposable filter that removes bacteria from respiratory and anesthesia breathing circuits. The Pall® Breathing Circuit Filter allows high flow and minimal resistance with a bacteria removal efficiency of 99.999 percent.

NEW DRUG JOURNAL — A new bimonthly journal concerned with national therapeutics and clinical drug research is now in print. *Pharmacotherapy, The Journal of Human Pharmacology and Drug Therapy,* contains four categories of review articles: 1) evaluations of new drugs; 2) evaluations of new indications; 3) therapeutics reviews; and 4) drugs in perspective. Direct inquiries to Pharmacotherapy Publications, Inc., 112 School Street, Carlisle, MA 01741.

PRESSURE KIT — A disposable pressure-monitoring kit for direct, arterial-pressure monitoring is a new product of Hewlett-Packard. The HP 1290AH-E01 kit is preassembled and sterilized, and is to be used in conjunction with the HP 1290A quartz pressure transducer.

RECENT BOOKS

White, Karol, 1981, *WHAT TO DO WHEN YOU THINK YOU CAN'T HAVE A BABY,* Doubleday & Co., New York, $11.95. (Advice from fertility experts.)

Fontanelle, Don H., 1981, *HOW TO LIVE WITH YOUR CHILDREN,* Almar Press, Binghamton, New York, $9.95. (A positive approach to child behavior.)

Colen, B. D., 1981, *BORN AT RISK,* St. Martin's Press, New York, $9.95. (The struggle for life in a neonatal intensive care nursery.)

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Dunphy, J. Engleburt, and Way, Lawrence W., editors, 1981, *CURRENT SURGICAL DIAGNOSIS AND TREATMENT,* 5th edition, Lange Medical Publishers, Los Altos, California, $25.00. (Another addition to an excellent series of medical textbooks.)

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Benson, Ralph C., editor, 1982, CURRENT OBSTETRIC/GYNECOLOGIC DIAGNOSIS AND TREATMENT, 4th edition, Lange Medical Publications, Los Altos, California, $25.00.

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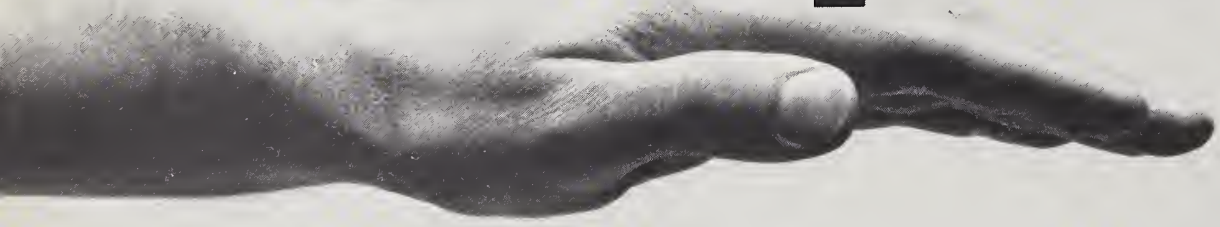
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A two-day continuing education program in Oncology for primary care physicians will be held at Holling Education Center, Immanuel Medical Center, April 7-8, 1983. This program is designed to enhance physicians' diagnosis, treatment and follow-up skills in dealing with the most prevalent oncology diagnoses. Continuing Medical Education (CME) credits are offered for participation in the program.

Spouses are invited to participate in special activities; participants and faculty will enjoy an evening of Dinner Theater together on Thursday, April 7. Participants are housed at the beautiful new Immanuel Plaza Motel on the Medical Center campus.

An agenda of the two-day program is as follows:

First Day

Introduction to Cancer
John B. Davis, M.D.
Principles and Treatment of Cancer:
Radiation Oncology
Chemotherapy
David J. Harter, M.D.
Herbert A. Hartman, Jr., M.D.
Imaging Modalities
Gordon Johnson, M.D.*
W. Benton Copple, M.D.*
Management of Medical Emergencies
David J. Harter, M.D.
Colon Cancer Update
Mark Christensen, M.D.
Skin Tumor, Diagnosis and Treatment
John F. Latenser, M.D.
Lung Cancer Update
Leonard Moss, M.D.
David J. Harter, M.D.
The Role of the Family Physician in the Treatment of Cancer
Ronald C. Bell, M.D.
Tour of Radiation Therapy

Second Day

Tumor Conference
John B. Davis, M.D., Moderator
Panel — Medical Staff representing Hematology, Medical Oncology, Pathology, Gynecology, Surgery, Radiology, Urology, General Family Practice, Internal Medicine
Gynecologic Tumor
Leon S. McGoogan, M.D.*
Terrence J. Kolbeck, M.D.*
Update on Leukemia
John R. Feagler, M.D.
Control of Pain in the Cancer Patient
David J. Harter, M.D.
Rehabilitation of the Cancer Patient
Stuart G. Oxford, M.D.
Breast Cancer Update
John B. Davis, M.D.
Cancer Screening in the Physician's Office
William A. Shiffermiller, M.D.
Prostate Cancer Update
Stewart E. Sloan, M.D.*
Gerald C. Felt, M.D.*
Follow-Up of Cancer Patients
John B. Davis, M.D., Moderator
Panel — Doctors Harter, Hartman, Bell

* Session presenter rotates for each Fellowship Program.

For more information on this or future Fellowships, contact Marion Kaple, Holling Education Center, Immanuel Medical Center, Omaha, Nebraska 68122, (402) 572-2340.

ABOUT IOWA PHYSICIANS

Dr. J. A. Olivencia, Des Moines, recently received the Outstanding Young Men of America Award from the U.S. Jaycees. Dr. Olivencia was cited for his work in the treatment of obesity both through surgery and support programs. A graduate of Cuyo University in Argentina, he interned at Mercy Hospital Medical Center and completed his surgery residency at Veterans Hospital in Des Moines. . . . **Dr. R. Bruce Trimble,** Mason City, recently was elected a fellow of the American College of Physicians.

Dr. Dave Stilley will begin family practice in Harlan following completion of his family practice residency at Broadlawns Medical Center in Des Moines. Dr. Stilley received the M.D. degree at the University of Minnesota School of Medicine. . . . **Dr. Harold Moessner,** Des Moines, recently received the bronze medallion for 20 years of volunteer service to the American Cancer Society, Iowa Chapter. A member of the board of directors of the Iowa unit since 1969 and the executive committee since 1973, Dr. Moessner has served the last 2 years as president of the Iowa division. . . . **Dr. Mary Arends,** Manchester, recently was installed as president of the Iowa Academy of Family Physicians. Dr. Arends is the first woman president of the 1,000 member physician organization in Iowa. . . . **Dr. W. David Clark,** Forest City, recently was named Winnebago county medical examiner. Dr. Clark is associated with the Park Clinic in Mason City and rotates his practice between the Clinic offices in Buffalo Center, Forest City and Mason City. . . . **Dr. William Artherholt,** Red Oak, was guest speaker at a recent meeting of the Montgomery County Chapter of the American Diabetes Association. Dr. Artherholt's topic "Home and Office Monitoring." . . . **Dr.**

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James A. Peterson, Clinton, recently was named a fellow of the American College of Surgeons.

Dr. Thomas J. Schueller recently was elected president of the medical staff at Mercy Hospital in Cedar Rapids. **Dr. Leland G. Hawkins** was elected vice president, and **Dr. William B. Galbraith,** secretary-treasurer. All are CR physicians. . . . **Dr. Leo A. Gaukel,** Onawa, recently was presented the Golden Anniversary Citation for 50 years of service in the medical profession by the Creighton University School of Medicine. Dr. Gaukel received the M.D. degree at Creighton in 1932. . . . **Dr. Albert R. Coates** has been named president of the medical staff at St. Luke's Hospital in Cedar Rapids. **Dr. Gene E. Meger** was named vice president, and **Dr. Wilson W. Strong,** secretary-treasurer. All are CR physicians. . . . **Dr. John B. Stokes,** associate professor, Department of Internal Medicine, U. of I. College of Medicine, recently was named director of the Division of Nephrology. Dr. Stokes joined the U. of I. faculty in 1978. . . . **Dr. Curtis W. Rainy,** Elma, recently was elected president of



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the medical staff at St. Joseph Community Hospital in New Hampton. **Dr. Raymond Nielsen** was elected vice president, and **Dr. Patrick Kain,** secretary-treasurer. Drs. Nielsen and Kain are New Hampton physicians.

DEATHS

Dr. Kenneth L. Thompson, 90, Oakland family practice physician for more than 60 years, died December 14, at Clarkson Memorial Hospital in Omaha. Dr. Thompson received the M.D. degree at the University of Nebraska School of Medicine in 1918. He began medical practice in Oakland in 1921. Referred to as Iowa's oldest active general practitioner, Dr. Thompson was still working 35 hours a week at his office when he celebrated his 90th birthday this year. He was a past president of the Pottawattamie County Medical Society and a life member of the Iowa Medical Society.

Dr. Emory D. Warner, 77, Iowa City, died November 22 at University Hospitals in Iowa City. Dr. Warner received the M.D. degree at the U. of I. College of Medicine. He joined the College of Medicine staff in 1930 and headed the Department of Pathology from 1945 to 1970. He was elected professor emeritus at the U. of I. in 1973. Dr. Warner received worldwide recognition for his research activity and in 1980 was presented the Gold Headed Cane Award of the American Association of Pathologists. New clinical laboratories now under construction at University Hospitals recently have been designated the Emory D. Warner Department of Pathology Clinical Laboratories. Dr. Warner was a past president of the American Society of Experimental Pathology; member of the board of the Federation of American Societies for Experimental Biology and life member of the Iowa Medical Society.

Dr. Frank E. Thornton, 70, Des Moines, died December 27 at home. Dr. Thornton, chief of orthopedics, Veterans Administration Medical Center since 1976, was a longtime orthopedic surgeon in Des Moines. He received the M.D. degree at the U. of I. College of Medicine and entered private practice in Des Moines in 1946. A past chief of staff at Iowa Methodist Medical Center in Des Moines, Dr. Thornton was a member of the Central Iowa, Iowa State and Mid-Central Orthopedic Societies.

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How is that?

On December 14, Oakland's doctor died. Kenneth L. Thompson, M.D., was 91 years old. His funeral was two days later. The townspeople Dr. Thompson served for 61 years paid meaningful tribute to his dedicated and loving presence.

The United Church of Christ overflowed into its basement with area residents. Wires were strung to carry the sound to the firehouse. The community stood still out of respect for a man it called "Doc" for three generations.

As Council Bluffs Nonpareil Writer Jim Williams said about Dr. Thompson, "The obituary that appeared in The Nonpareil Tuesday told the facts of his 61-year career there. But the facts do not say everything about a man who, for residents of Oakland, Hancock, Carson, Treynor and the surrounding rural area, was a fixture of life."

Reporter Williams presented reflections of several folks who knew "Doc" Thompson well. And when you have delivered 2,500 babies you've gotten to know a lot of people.

Dr. Thompson was called Iowa's oldest active general practitioner. Newspaper accounts say he was putting in 35 hours a week at his office when he celebrated his 90th birthday. His ability to identify problems and his ability at referral were cited by those interviewed.

Dr. Thompson was a 1918 medical graduate of the University of Nebraska. He traveled by train with his wife from Omaha to Oakland in 1921 to establish a practice that continued for more than six decades. He received life membership in the Iowa Medical Society in 1968 and was a past president of the Pottawattamie County Medical Society.

Fellow citizens interviewed by the Nonpareil told of the community's feeling for Dr. Thompson. Said Oakland City Clerk Darlene Frizzell, "I didn't doctor with him all my life, like some people did. Of course, I didn't live here all my life, either. But I did doctor with him. He set my little girl's arm, and my little boy had a broken shoulder and he took care of that for him, and he took care of me getting my tonsils taken out. He was just a grand old man, that's all there was to it."

The appreciation of a grateful community was made evident in many ways. Birthday receptions for Dr. Thompson were held, the last attended by more than 200 persons. In 1978, the new street behind city hall was named "Dr. Thompson Avenue." And in 1981 he was marshal of the Oakland centennial parade.

Usually, we write about issues and programs in this space. Regrettably, perhaps, we say little about people. Dr. Thompson's life was consumed by an overriding interest in serving those around him. It gave him great satisfaction. Such performance is recorded — maybe not often for so long a duration — by other Iowa physicians and by other Iowans who serve their fellow citizens in various ways.

Here is a life that deserves to be admired and emulated — whether you are a plumber, painter, printer, physician, or even an editor.

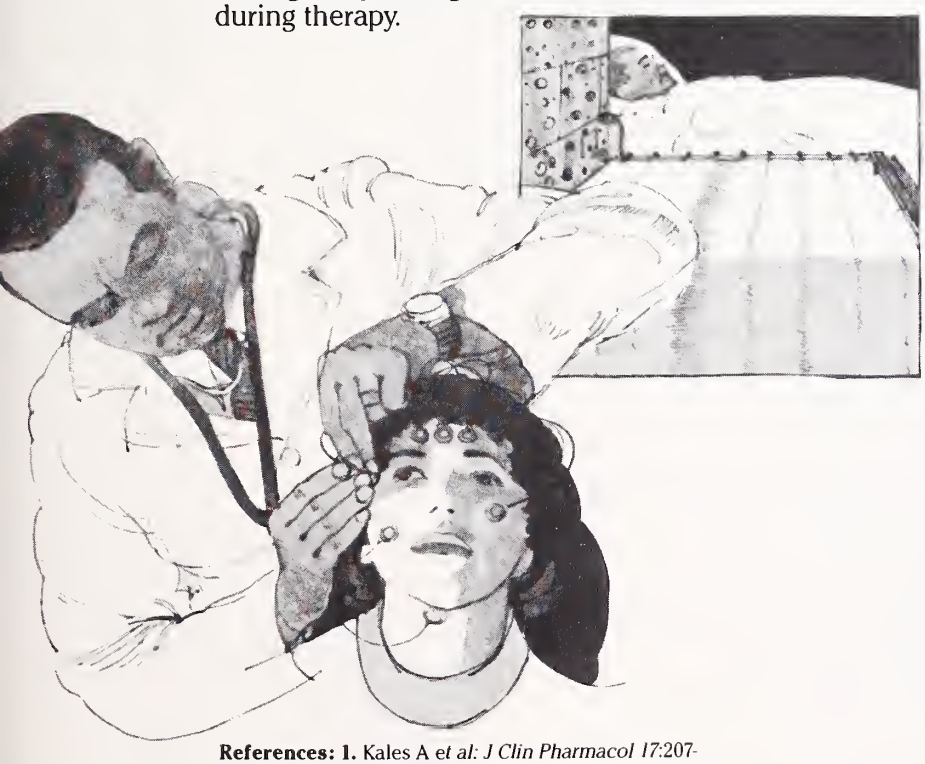
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Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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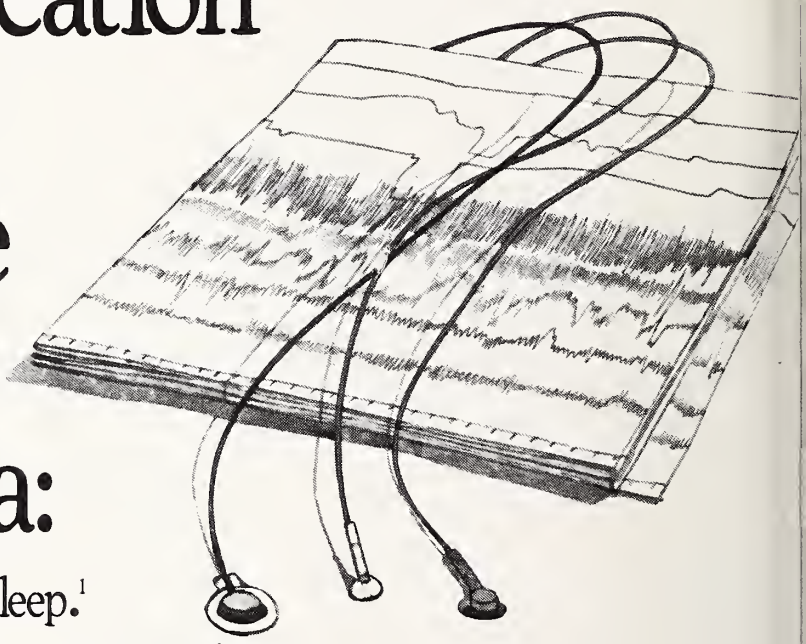
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MARCH 1983

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PROGRAM INSIDE

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JOURNAL OF THE IOWA MEDICAL SOCIETY

MARCH 1983/VOLUME 73 NUMBER 3

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ABOUT THE COVER — Yes, member physicians, it's a SCIENTERRIFIC SESSION coming up May 1 and 2 at the Des Moines Marriott Hotel. It's a guaranteed educational battery-recharger. The full program details and a registration form appear in the special insert provided with this issue. Direct further inquiries to IMS headquarters.



PRESIDENT'S PRIVILEGE

If there is one word that describes the Iowa Medical Society in its service to its members and to the public, it is this: *advocacy*. Here are two examples, out of many.

As an advocate for physicians and their patients, the IMS carefully monitors state and federal legislation which will have a significant impact on the quality and cost of health care.

In the main, medicine's positions on important health care matters have been upheld. This year, with increasing pressures and concerns over health care costs, the Society is involved in several critical legislative issues, whose outcomes are undecided as this is prepared.

No matter what the issue, however, the Society's primary objective is to maintain an appropriate practice environment for physicians to enable them to continue to provide high quality health care to all their patients.

The IMS also serves as an advocate for individual members through its relatively new, but extremely important Assistance Program for Troubled Physicians.

The APTP is strictly voluntary. Through it physicians are encouraged to seek help for any problem related to alcohol or other drugs, mental illness, physical illness, or aging. The main objective of this effort — and the "physician advocates" who are involved in it — is to help a troubled physician get treatment before professional competence is questioned, or impaired.

As patient "advocates," physicians desire to serve their patients with competence and compassion. As an "advocate" for physicians, the IMS wants to assure its members have the opportunity to do so.

H. Rassekh

Hormoz Rassekh, M.D.
President

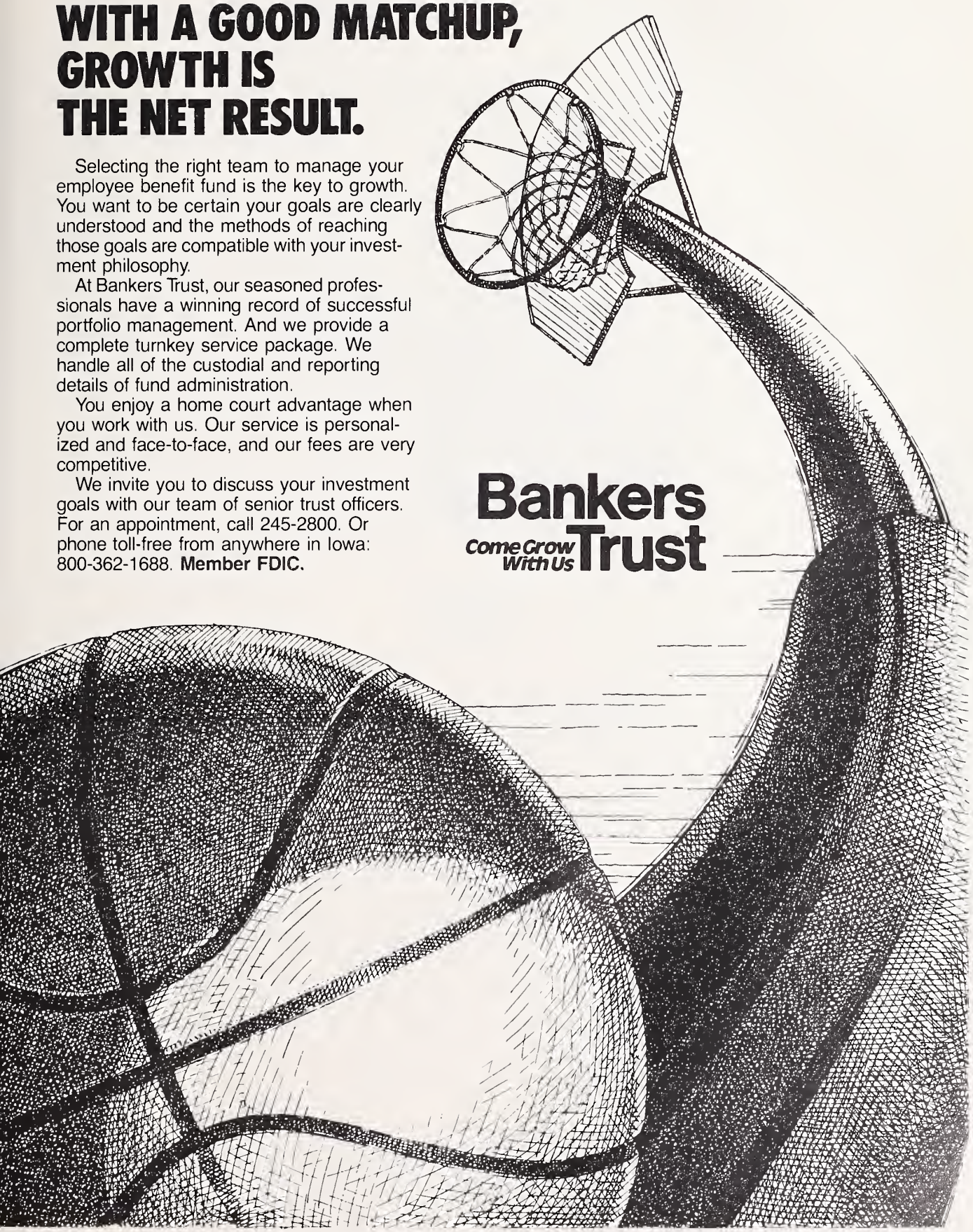
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The abused child will grow up someday. Maybe.

Each year, over one million American children suffer from child abuse. And over 2,000 children die from it.

But what about those who survive?

Statistics show that an abused childhood can affect a person's entire life.

Many teenage drug addicts and many teenage prostitutes report being abused children. So do juvenile delinquents and adult criminals.

Yet child abuse *can* be prevented.

The National Committee for Prevention of Child Abuse is a private, charitable organization that knows how to prevent child abuse.

But we need your help to do it.

We need your money. We need more volunteers.

Send us your check today, or write for our booklet.

Because if we don't all start somewhere, we won't get anywhere.

National Committee for Prevention of Child Abuse

Help us get to the heart of the problem.

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QUESTIONS - ANSWERS

JAMES F. BISHOP, M.D.
Davenport, Iowa

1983 IMS SCIENTIFIC SESSION

The 1983 Iowa Medical Society Scientific Session has been planned by a 7-physician Program Committee. Dr. Bishop, a past-president of the Society, is chairman of this committee. His comments here represent a cordial invitation to all IMS members to attend the May 1-2 program.

Tell us, what's happening May 1 and 2?

Following adjournment of the House of Delegates and beginning with a luncheon on May 1, at the Marriott Hotel in Des Moines, and continuing on May 2, the 1983 Scientific Session of the IMS will unfold.

The fact that the Session follows right after the House of Delegates sounds good for those delegates who will already be in Des Moines. Right?

Right on! It is the President's hope that by combining the two IMS events in a long weekend, more members will be tempted to attend both.

What are a couple of topics on the 1983 Scientific Session that will be of real interest to a lot of physicians?

A Working Hospice, Herpes, New Imaging Techniques, Transplant Surgery, 100 Years of American Medicine are only a few of the topics to be explored by experts.

How would you characterize the Scientific Program overall?

The Scientific Program promises to be a fast-moving brush up on medical matters. The subjects have been carefully chosen by the Program Committee so as to be of interest to all physicians and their spouses. Oh, yes, the spouses are most welcome!

Are there other points about the 1983 program you would like to emphasize?

Among the many attractions at this learning and social experience, two stand out in my mind. One is the always popular gems from the experts — two panels of *What's New in Medicine?* The other is the montage — *Iowa, A Place to Grow* — delightful pictures of Iowa and its people with Beethoven providing the background, at the Sunday evening reception.

Finally, would you want to invite Iowa physicians to be on hand for this CME event?

The Program Committee — whom I most heartily thank — and the talented, carefully chosen speakers have expended much thought and effort to make this Session an outstanding event. Sounds like a very nice way to pick up some CME hours, doesn't it?

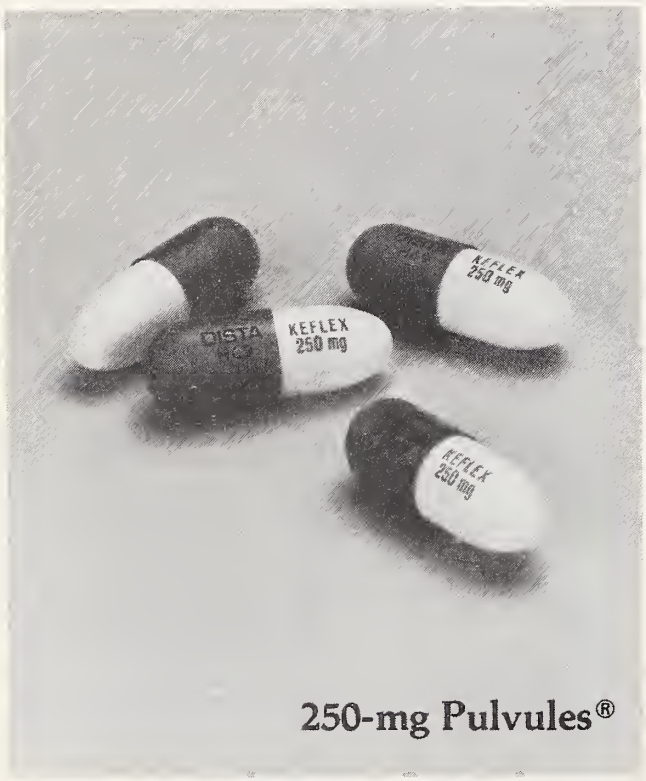
1983 HOUSE OF DELEGATES

The 1983 Iowa Medical Society House of Delegates will meet Saturday and Sunday, April 30 and May 1, at the Des Moines Marriott Hotel.

Steps leading to this year's policy-making sessions of the House are proceeding. Delegate selection by county societies is near completion. District caucuses conclude this month. The 1983 Nominating Committee will meet at IMS headquarters March 27.

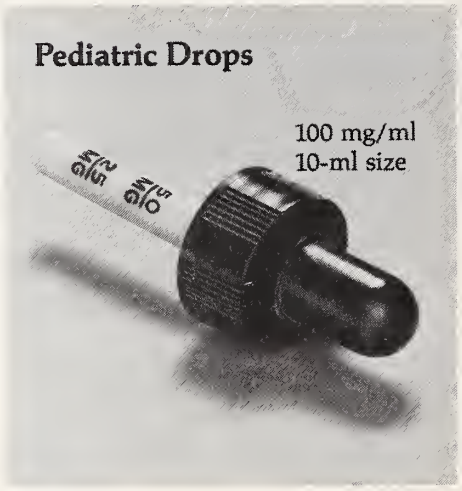
The Handbook for the House of Delegates will be distributed soon. Committee reports and resolutions in hand will be published in the Handbook.

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THINGS YOU SHOULD KNOW

NEW LICENSE PLAN

The new Iowa medical licensure plan gets underway with the distribution of renewal notices by the Board of Medical Examiners in April. The new arrangement provides a 2-year renewal and is to be tied to the birthdate of the license-holder. In the inaugural stage, a physician will be renewed for the period between 7/1/83 and his/her birthday; fees and CME requirements will be prorated for the time involved. When the birthdate of a licensee approaches, BME contact will be made to consummate a 24-month renewal with this process continuing thereafter. The license fee is being increased from $40 to $50 per year. A letter of explanation on these matters will be sent by the BME in late April.

OMNIBUS HEALTH BILL

As this is prepared, Senate action is awaited on the 4-part House-passed bill to (a) create a health data commission, (b) revamp the Blue Cross/Blue Shield boards, (c) provide Blue Cross benefits for outpatient surgicenter services, and (d) allow for hospital employment of pathologists and radiologists. The IMS is urging allowance for separate billing by the specialists involved in this latter provision.

RESOLUTIONS ARRIVING

Resolutions from Clinton and Davis counties are in hand for consideration by the 1983 IMS House of Delegates. They deal with (1) use of epinephrine by emergency care personnel, (2) restraint of children as vehicle passengers, and (c) allowance for physicians to serve where exempted by law from hospital boards. More resolutions are expected in the coming weeks.

NEW EXEC FOR LINN

The Linn County Medical Society has named a new executive director to help represent its interests. Dan Langfield, of Dubuque, will assume this post in April. The LCMS has 194 members.

IFMC ACTIONS

The Iowa Foundation for Medical Care will continue individual case fee review on agreement by the parties, according to a report in the February IFMC News. The IFMC board reaffirmed this status and consistent with this is asking the Iowa congressional delegation to exempt fee review from the FTC baliwick. In other action, the IFMC board adopted a preadmission certification program that allows hospitals to use individual approaches as part of the delegated system. On items related to data release the IFMC emphasis is, like the IMS, strong on confidentiality and accuracy.

WENNBERG STUDY DATA

Findings from the Wennberg hospital utilization study sponsored by the Iowa Voluntary Cost Containment Committee are being explained to physician leaders in a series of 6 February and March meetings. Sessions are occurring in Manchester, Mt. Pleasant, Des Moines, Waterloo, Atlantic and Sioux City, with an IMS officer assisting in each.

TRAVEL OPPORTUNITY

The Orient-Express is a summer travel adventure open to IMS members from July 8/24. The 2-week holiday will explore Vienna, Venice and Paris. Full info is available from IMS headquarters.

NEW CRITERIA

New IFMC utilization review criteria have been furnished recently to Iowa hospitals covering psychiatric care and rehabilitation. The psychiatric criteria has emerged after consultation with representatives of the Iowa Psychiatric Society.

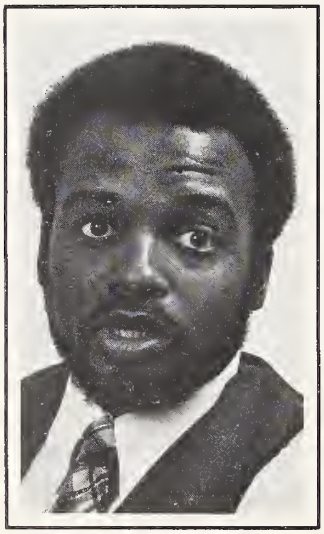
REVISED OUTPATIENT LIST

A revised outpatient/same-day surgery list has been circulated by the IFMC to Iowa hospitals. The list has been revamped following suggestions of Iowa specialty groups and others.

CLINTON MEMORIAL

$15,000 scholarships have been created at each of Clinton's two colleges in memory of the Dr. Ahmed A. Taha family. The 18 physicians at Medical Associates donated the memorial scholarships. The family of four perished in a home fire November 25.

"Sure I'm concerned, but what can I do about health care costs?"



■ That's a question we're hearing from a lot of Iowans these days, including physicians.

As individuals, our subscribers may not think they can have an impact on health care costs. They know some of the things they could be doing - like maintaining a balanced diet. Getting regular exercise. Keeping fit. Not smoking.

But there's more they can do.

For instance, we're encouraging Iowans to talk to you - their doctor - before undergoing treatment...to ask about costs and cost-saving alternatives such as pre-admission testing and outpatient care.

We're asking them to think twice before using the hospital emergency room as a 24-hour-a-day doctor's office. And we're emphasizing the importance of knowing what their health care program covers.

A more educated public is a first step in keeping costs down. But better communication is a two-way street.

Health care providers can help by talking to their patients about costs, the most appropriate settings for treatment, and staying healthy.

And Blue Cross and Blue Shield have a role to play in emphasizing benefit design which encourages less-costly outpatient care and discourages unnecessary hospital admissions.

Together with the physicians of Iowa and other providers, we **can** control the cost of health care in our state.

Blue Cross Blue Shield
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Des Moines/Sioux City

Toxic Megacolon

WILLIAM R. BUCKLEY, M.D.
Jefferson, Iowa

Reported here is a series of 21 patients over an 11-year period who were treated for toxic megacolon. The point of emphasis is on the importance of surgical intervention before perforation occurs.

DILATION OF AN unobstructed colon associated with signs of toxicity was described first in 1951 by Madison and Bargen.[1] The pathogenesis is unknown but it is commonly associated with ulcerative colitis, occurring in 1.6 to 5.5% of all admissions for ulcerative colitis and in 10 to 20% of severe attacks.[2-4]

Toxic megacolon has also been described in association with Crohn's disease, bacillary dysentery, cholera, typhoid fever, amebic colitis and pseudomembranous colitis.

This condition is fraught with morbidity and mortality but there is no consensus on optimal nonoperative and operative approaches, thus providing a complex and uncertain situation for the clinician.

MATERIAL

Between 1967 and 1978, 21 patients (11 females and 10 males) were discharged from The University of Iowa Hospitals and Clinics with the diagnosis of toxic megacolon. This represented 5.3% of the 393 admissions for inflammatory bowel disease. The ages ranged from 16 to 66 years; the average age for females was 42 and for males 32 years.

The underlying disease was ulcerative colitis in 16 patients, Crohn's colitis in 4 patients, and pseudomembranous colitis in 1 patient. The underlying disease had been diagnosed for an average of 2 years and the current attack had lasted 1 month.

Twenty patients were transferred from other hospitals and 16 had toxic megacolon on arrival. Ten patients had had a barium enema examination during the current attack of colitis, 18 had received opiates or opiate derivatives, and 12 were given anticholinergics.

Symptoms on arrival included diarrhea (21 patients), abdominal pain (16), hematochezia (14), weight loss (7), fever or chills (7), malaise (5), abdominal distention (5), nausea or vomiting (3), and anorexia (1).

Physical examination when the diagnosis of toxic megacolon was made revealed systolic blood pressure less than 90 mmHg in 2 patients. The pulse ranged from 75 to 125 beats per minute with an average of 116. Temperature ranged from 36.0 to 40.5°C with an average of 38.3°C. Patients with subsequently proven perforation had an average temperature of 38.0°C.

Examination of the abdomen when the diagnosis of toxic megacolon was made revealed tenderness (21 patients), distention (16), increased tympany (10), and signs of peritoneal irritation (9). Bowel sounds were normal in 5,

The author is now in the private practice of general surgery in Jefferson, Iowa. The research was compiled during a surgical residency taken by the author at the University of Iowa.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF MARCH 1983

decreased in 11, and absent in 5 patients. Of the 7 patients who were subsequently found to have perforation at operation, 3 had no peritoneal signs and these were all patients treated with steroids.

Sigmoidoscopy was done on 13 patients and was abnormal in all. Friability was present in 5, ulcers in 4, granular mucosa in 3, edematous mucosa in 3, hemorrhage in 2, and pseudomembrane in 1.

Laboratory examination when the diagnosis of toxic megacolon was made revealed a leukocyte count of 3,600 to 50,000/mm^3 with an average of 16,700/mm^3. Two patients on chronic steroid use had leukocyte counts of 5,100 and 7,600/mm^3. The average leukocyte count in 7 patients with perforation proven at operation was 16,200/mm^3. Mild anemia and hypoalbuminemia were common.

"Of the 15 patients in whom the rectum was left at the original operation, 11 have had the rectum removed for recurrent disease."

Stool cultures in 11 patients revealed no pathogenic bacteria. Blood cultures in the initial evaluation of 12 patients were sterile. Stool exams for ova and parasites in 7 patients were negative.

X-rays at the time of diagnosis of toxic megacolon were available for review in 12 patients. The entire colon was dilated in 3 patients, transverse and descending colon in 4 patients, and transverse and ascending colon in 1 patient. The largest diameter of the colon ranged from 8.5 to 13 centimeters with an average of 9.9 centimeters. Haustra were present in 6 and absent in 6 patients. Pseudopolyps were present in 9 patients, small bowel dilation in 9 patients, thickened bowel wall in 7 patients and perforation in 2 patients.

TREATMENT

All patients were given nothing by mouth and nasogastric suction was instituted. All received intravenous replacement of fluids, electrolytes and blood products as needed. All had at least daily abdominal x-rays.

Seventeen of the 21 patients received steroids. Eleven received azosulfapyridine (Azulfadine) and 12 received systemic antibiotics.

Of the 21 patients, 20 required operation. The indication for operation was failure of nonoperative management in 13 and perforation in 7 patients.

Seventeen of the patients were operated on within 24 hours of the diagnosis of toxic megacolon. One patient died. One patient was operated on 2 days and 1 patient 3 days after the diagnosis (died). In one patient the diagnosis was made at celiotomy.

At operation 12 patients had recognizable perforation (6 spontaneous and 6 iatrogenic) and 1 patient had free air with no identifiable perforation.

Twelve patients had subtotal colectomy and ileostomy without death. Five patients had protocolectomy and ileostomy with one death. One patient had a right hemicolectomy and ileostomy. One patient had a transverse loop colostomy and died. One patient had an ileostomy and cecostomy.

RESULTS

The patient with ulcerative colitis who was treated nonoperatively was not well controlled with systemic steroids, azosulfapyridine, and steroid enemas and underwent uneventful proctocolectomy electively 15 months after the episode of toxic megacolon.

There were 2 post-operative deaths. A 39-year-old female with ulcerative colitis died 4 days after transverse loop colostomy, and a 66-year-old female with ulcerative colitis died 31 days after proctocolectomy.

Other complications included 10 abdominal and pelvic abscesses in 6 patients, liver dysfunction in 4 patients, wound infection in 3 patients, pneumonia in 2 patients, and 1 patient each with arterial insufficiency of the lower leg, ileostomy retraction, and recto-vaginal fistula.

The overall mortality was 9.5%. The mortality of nonoperative treatment was 0% (0/1). Operative mortality was 10% (2/20). Operative mortality with an associated perforation was 7.6% (1/13); without perforation 12.5% (1/8).

Of the 15 patients in whom the rectum was left at the original operation, 11 have had the rectum removed for recurrent disease.

DISCUSSION

The pathogenesis of toxic megacolon is unknown but the dilation of the colon is thought to be due to inflammation and destruction of the muscle layers of the colon.[5, 6]

The role of barium sulfate enema, opiates

and anticholinergics as possible inciting factors has been proposed but the evidence is circumstantial.[7-9] The role of steroids in the pathogenesis of toxic megacolon is likewise unclear but widely discounted.

The diagnostic workup should include a complete history and physical examination, sigmoidoscopy, appropriate blood tests, blood cultures, stool cultures, and examination of the stool for ova and parasites. Abdominal x-rays should be done initially and serially.

Nonoperative therapy includes giving nothing by mouth; nasogastric suction; intravenous administration of fluid, electrolytes, and blood products as needed; corticosteroids and/or ACTH; and systemic antibiotics. Abdominal x-rays should be obtained daily and more frequently if indicated by the patient's condition. Barium enema, anticholinergics, and opiates should be avoided.

Indications for operation include perforation, life-threatening hemorrhage, and failure to improve on nonoperative management.

Perforation can be determined most accurately by x-ray — degree of leukocytosis, fever, and abdominal findings will not reliably identify these patients.

To judge whether a patient is responding to nonoperative therapy one must consider the patient's general condition, x-rays, temperature, leukocyte count, and abdominal examination. Abatement of the diarrhea by itself may indicate further destruction of the colon and not an improvement in the patient's condition.

There is some retrospective evidence that prolonged nonoperative therapy is associated with increased incidence of perforation, prolonged hospitalization, increased morbidity and increased mortality. Because of this, most authors now recommend early operation.[10, 11] Most patients successfully treated nonoperatively will eventually require operation.[12]

Strauss,[13] in 1976, reviewed the literature and found the mortality for nonoperative therapy was 27% in 160 patients. The mortality for operative therapy was 19% in 444 patients (9% without perforation and 41% with colon perforation). Obviously, avoiding perforation is the key to successful management.

The choice of operation remains controversial. Ileostomy alone has disappeared since Peskin reviewed the literature and found a 50% mortality (32 patients).[14] Cecostomy has had scattered reports and some proponents but is not widely practiced.[15, 16]

Subtotal colectomy and ileostomy has many proponents. Binder showed that subtotal colectomy took an average of one hour less operating time and one unit less blood than proctocolectomy.[17] It is recommended in cases of free perforation, in cases where the rectum is not involved, and when ileo-rectal anastomosis is contemplated.

Most patients undergoing less than proctocolectomy will need to have the rectum removed later for recurrent disease, carcinoma, or stricture. The incidence of carcinoma over 10 to 15 years in the retained rectum has been reported to be 0.6 to 6.7%.[18, 19]

"Indications for operation include perforation, life-threatening hemorrhage, and failure to improve on nonoperative management."

Total proctocolectomy and ileostomy is recommended by some authors for all indications and is recommended by others when the operative indication is hemorrhage. Recently, some authors find it is associated with a lower mortality but there are no prospective trials and high risk patients (perforated) are more likely to have subtotal colectomy.

Turnbull, in 1971, described his technique of ileostomy with a decompressing colostomy.[21] He feels this is indicated when possible sealed off perforations exist or the colon is too fragile to handle. He performed this procedure on 42 patients with 1 death. One more patient died after a subsequent definitive colectomy, so the cumulative mortality was 5%. In 1976 Fazio reported an overall mortality of 9.8% in 41 patients treated similarly.[22]

SUMMARY

Twenty-one patients with toxic megacolon were treated between 1967 and 1978. One was treated nonoperatively, and 20 required operation. There were 2 operative deaths and a high rate of septic complications. Early operation before perforation occurs is an important concept in treating these patients.

REFERENCES

The references noted in this paper are available either from the author or the JOURNAL OF THE IOWA MEDICAL SOCIETY.

Use of Schedule II Controlled Substances In Iowa — 1977 to 1981

A sharp decrease in the use of Schedule II stimulant anorectic drugs has occurred in Iowa during the 4-year period. In some instances the reduction has been as much as 90% of an earlier year. This is cause for satisfaction, the article concludes.

In 1979 the Iowa Board of Pharmacy Examiners undertook a study of the use of amphetamine and amphetamine-like preparations in Iowa. That study encompassed a review of these Schedule II products filled in Iowa community pharmacies between March 1, 1978 and February 28, 1979. A summary of the findings of that study was released in early 1980.

Subsequent to the release of the study, the Iowa Board of Medical Examiners promulgated rules which prohibited Iowa physicians from prescribing any stimulant anorectic agent classified as a Schedule II controlled substance for the treatment of obesity. This regulation became effective on December 3, 1980 and included the following drugs:

1. *Amphetamine, its salts, optical isomers, and salts of its optical isomers, as a single agent or in combination with other agents.*
2. *Methamphetamine, its salts, and salts of its isomers, as a single agent or in combination with other agents.*
3. *Phenmetrazine and its salts, as a single agent or in combination with other agents.*
4. *Methylphenidate as a single agent or in combination with other agents.*
5. *Any other stimulant anoretic agents added to the above schedules.*

Early in 1980, Iowa pharmacists were notified by the Board of Pharmacy Examiners of the prohibition by the Board of Medical Examiners of the use of these drugs in treating obesity. Iowa pharmacists were advised they had a legal obligation to insure these drugs were not dispensed except for legitimate medical purposes.

Statistical reports on the distribution of Schedule II controlled substances in Iowa for calendar year 1981 have recently been released by the Drug Enforcement Administration. For the first time, since the release of the 1978-79 study by the Board of Pharmacy Examiners and the adoption of rules by the Board of Medical Examiners (Dec. 1980), we have a graphic picture of the statistical changes before and after the rule change.

This summary provides a comparison on the use of these drugs for the calendar years 1977 through 1981. The following data is obtained from the DEA reports entitled "ARCOS/DADS Annual Reports — State of Iowa." ARCOS stands for Automation of Reports and Consolidated Orders System. DADS refers to Diversion Analysis and Detection System.

This summary has been provided by Norman C. Johnson, R.Ph., executive secretary, Iowa Board of Pharmacy Examiners.

The drugs included in Table I are sold under such trade names as Biphetamine, Dexadrine and Diphylets. The quantities involved, if represented by 5 milligram tablets, range from 2,282,000 tablets in 1977 to 667,400 tablets in 1981. This represents a 70% reduction in the use of these drugs.

TABLE I
AMPHETAMINES

1977—	11,410 grams
1978—	8,866 grams
1979—	7,864 grams
1980—	6,004 grams
1981—	3,337 grams

The drugs included in Table II are sold under such trade names as Desoxyn and Obetrol. The quantities involved, if represented by 5 milligram tablets, range from 528,200 tablets in 1977 to 101,200 tablets in 1981. This represents an 81% reduction in the use of these drugs.

Only one drug is marketed in the classification represented in Table III. It is sold under the trade name Preludin. The quantities involved, if represented by 25 milligram tablets, range from 1,031,040 tablets in 1977 to 38,080 tablets in 1981. This represents a 96% reduction in the use of these drugs.

TABLE II
METHAMPHETAMINES

1977—	2,641 grams
1978—	2,210 grams
1979—	2,270 grams
1980—	1,227 grams
1981—	506 grams

TABLE III
PHENMETRAZINE

1977—	25,776 grams
1978—	24,159 grams
1979—	17,546 grams
1980—	12,207 grams
1981—	952 grams

Only one drug is marketed in the classification represented by Table IV. It is sold under the trade name Ritalin. The quantities involved, if represented by 10 milligram tablets, range from 2,203,600 tablets in 1977 to 1,414,300 tablets in 1981. This represents a nearly 36% reduction in the use of this drug. It should be noted that the drug Methylphenidate is not, and was not, used primarily for obesity control. Its primary indication for use is in the treatment of narcolepsy and attention deficit disorders.

TABLE IV
METHYLPHENIDATE

1977—	22,036 grams
1978—	16,779 grams
1979—	16,087 grams
1980—	17,806 grams
1981—	14,143 grams

TABLE V
ALL C-II STIMULANT ANORETIC DRUGS

1977—	61,863 grams
1978—	52,014 grams
1979—	43,767 grams
1980—	37,244 grams
1981—	18,938 grams

Table V represents a composite of I through IV. During the period 1977 through 1981, there was a total reduction in the use of these products of 42,925 grams, or 69%. Forty-two percent of that reduction occurred between 1980 and 1981.

CONCLUSION

Data from the Drug Enforcement Administration, ARCOS/DADS reports for 1981 shows a sharp decrease in the use of Schedule II stimulant anorectic drugs in Iowa. For the three principal drugs formerly prescribed for obesity (Amphetamine, Methamphetamine and Phenmetrazine), the figures show a reduction of 88% between 1977 and 1981. While there were substantial reductions in the use of all products in these three groups, the most significant reduction occurred with the use of the drug Phenmetrazine. Between 1980 and 1981, the use of this product decreased from 12,207 grams to 952 grams, a 92% decrease.

Efforts by the Board of Pharmacy Examiners, the Iowa General Assembly and the Board of Medical Examiners in limiting the use of these seriously abused drugs have been extremely successful. Everyone involved in the effort can take great satisfaction in knowing that their efforts have contributed to the improved health and well-being of all Iowa citizens.



COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

CLEAR MAY 1/2

THE PROGRAM for the 1983 Iowa Medical Society Scientific Session is presented in this issue of the JOURNAL. We remind you again this event convenes upon adjournment of the 1983 IMS House of Delegates.

Various factors make this combining of meetings a worthy idea. For one thing, if you are among the 200 or so physician delegates in Des Moines for the House deliberations, your further participation in this valuable education program will be a convenient proposition. By investing a limited amount of additional time you will (1) pick up some useful scientific information, and (2) earn some important CME credit. There is also some travel economy to consider.

On the other hand, if you are not a county delegate to the 1983 House, but want to see firsthand how the policymaking process works, you may want to come to the Des Moines Marriott Hotel Sunday morning and sit in on the final session of the House. The House sessions are open to any interested member. If you have never attended one, you should. You'll find it interesting and informative.

Broad member involvement in the workings of the profession is important. This is an excellent chance to be part of the two major annual activities of the Iowa Medical Society. I would urge you to mark May 1 and 2 on your calendar and attend the 1983 IMS Scientific Session. — M.E.A.

INNER ARMOR

Criticism comes easier than craftsmanship. — ZEUXIS, C. 400 BC

It is a thing of no great difficulty to raise objections against another man's oration — nay, it is a very easy matter; but to produce a better in its place is a work extremely troublesome. — PLUTARCH, AD 46-120

It is much easier to be critical than to be correct. — DISRAELI, 1804-1881

CRITICISM comes easy. So it is not difficult to see why critical comment about the medical profession is heard periodically; and even frequently in recent years.

Some of this criticism is constructive. Much of it, however, is with no basis in fact and with little good to be gained.

Various polls show our profession to be held in high esteem by patients. Yet, despite this, we hear criticism from numerous quarters. We must be open to honest criticism and act when it is constructive and true.

However, as individuals, we need to wear an *inner armor* to protect against the tendency to overreact or to respond in haste when we are hurt by criticism. We must maintain a listening ear and respond accordingly — and with remedial action when this seems necessary.

Are some of those who criticize correct? This should be the essence of our consideration. In many instances facts are twisted or manipulated to suit the occasion. Then, if the critic has some level of stature (whether it be justified or not), his utterances are accepted by many who are oblivious to the full truth. Some of our critics are masters at twisting facts and figures to suit their own purposes. Those who criticize medicine most severely are especially adept at this practice of manipulating facts.

Let's look at criticism as it relates to the cost of medicine. Often a vague, and sometimes inflated, figure is given when there is discussion of the overall costs of a particular medical

service. While costs for day-to-day routine medical care are normally quite acceptable, a sophisticated and often quite new procedure can skew the expense curve upward.

To illustrate, for not too many years we have had certain surgical procedures and intensive care areas (surgical, medical and neonatal) which provide lifesaving care that was unknown a decade or so ago. The cost of care for a preterm infant may exceed $80,000. Heart bypass surgery is much more expensive, because of its recent emergence, than an appendectomy or hysterectomy.

Much of our progress is a "spin-off" of the governmental space missions — which in themselves are among the most costly projects ever underwritten by the U.S. taxpayer. If the extraordinary developmental costs of medical diagnosis and treatment were eliminated from the statistics, more than likely the cost of medical care would be no more than the other costs of daily living . . . fuel, food, shelter and transportation.

In all of this cost consideration, it is amazing how much public spending there is for television and computer games, recreational items, as well as liquor, tobacco and drugs which are detrimental to general health.

The medical component is but one part of the cost spiral. More noteworthy, perhaps, have been the successful efforts by insurors to stimulate policyholders to want the most of the best with their marketing techniques which capitalize on public tendencies to get as much as possible for what is perceived to be no cost. Management has acquiesced to the demands of labor with its desire for complete paid-for medical care. The resulting premium costs and recessionary factors are squeezing the black from the balance sheet. The increasing surveillance over physician practice patterns is certainly curbing those few doctors who oversupply their services, so this limited threat to the ledger is not a growing factor.

For the most part, patients hold their physician in high esteem. And, while it is invalid to compare today's physician with the practitioner of yesteryear who sits at the bedside as in the classic painting by Luke Field, still it is right for patients to expect and receive understanding and compassion. In today's practice of medicine so many other things are available and expected. In some instances technical maneuvers overshadow the personal touch. While we must guard against this impersonality, we can acknowledge it is part of contemporary society. The corner grocery store has been replaced by the supermarket; the friendly service station is now a "do-it-yourself" island of pumps, and the good old hometown newspaper and television news programming tend to push their perspective (example: by analysis of presidential speeches that tell us what we thought we heard wasn't really what was said).

A last point on what to do about criticism: I have used the term *inner armor*. We need to look at ourselves and accept or reject critical comments based on an evaluation of the source. If a certain criticism is true, we need to correct it promptly. Obviously, it is well to anticipate problems and institute proper procedures before criticism appears. This is good in theory but not always possible. We must believe in and expound the good works of our profession. We need to go about our work with a full measure of interest and concern for those we serve. This will make our *inner armor* much more comfortable to wear. — M.E.A.

AAMA ANNUAL MEETING

The annual meeting of the American Association of Medical Assistants, Iowa State Society, will be April 15-17 at the Five Seasons Hotel in Cedar Rapids. Guest speaker at the opening session on April 15 will be Dr. Robert Kent, Tipton. His topic will be "Hypnosis."

Highlights of the April 16 program will be an address by Betty Mays, CMA-A, AAMA national president; a message by Mary Early, R.N., the Iowa president; and a presentation on "The Power of a Professional Image," by Marilyn Price, Kirkwood Community College. Clara Zellers is the featured speaker on April 17. Her topic will be "Future Woman."

Those attending the state meeting can earn .7 continuing education units. Hotel reservations should be made directly with Five Seasons Hotel, 350 First Avenue, N.E., Cedar Rapids, Iowa 52401. Phone 800/321-6288. Convention reservations should be mailed to Alice Redel, 1300 Karen Drive, S.E., Cedar Rapids, Iowa 52403. The deadline is April 4.

malpractice

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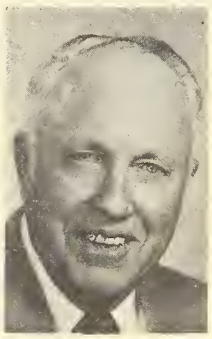
a scien-terrific session

may 1/2 • des moines marriott hotel

SCIENTIFIC SESSION

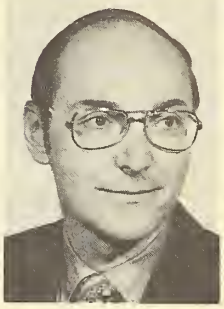
The 1983 Scientific Session of the Iowa Medical Society will be in Des Moines on Sunday, May 1 and Monday, May 2. It will follow immediately the 1983 Iowa Medical Society House of Delegates. All program sessions are scheduled at the Des Moines Marriott Hotel. The IMS Scientific Session is open to all member physicians at no charge other than for the meal functions. Advance registration is encouraged on the registration form found in this program. A registration desk will be maintained during the meeting.

THE PROGRAM COMMITTEE

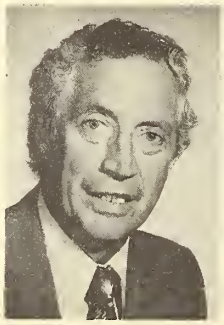


DR. BISHOP

The 1983 Iowa Medical Society Program Committee is chaired by James F. Bishop, M.D., Davenport. Other physician members are Richard M. Caplan, M.D., Iowa City; John Clancy, M.D., Iowa City; William B. Galbraith, M.D., Cedar Rapids; Maurice E. Kraushaar, M.D., Fort Dodge; John K. MacGregor, M.D., Mason City, and Bruce R. Trimble, M.D., Mason City.



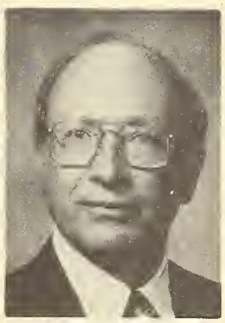
DR. CAPLAN



DR. CLANCY



DR. GALBRAITH



DR. KRAUSHAAR



DR. MACGREGOR



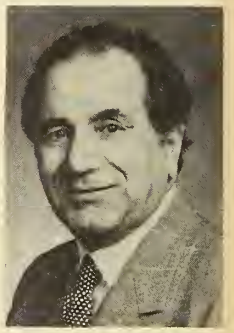
DR. TRIMBLE

HOTEL RESERVATIONS

The Des Moines Marriott Hotel is headquarters for the 1983 IMS Scientific Session. Room reservations may be made by calling directly the toll-free number 1/800-228-9290. Please request that your room be taken from the block reserved by the IMS.

PRESIDENT'S GREETING

The IMS Program Committee has arranged an outstanding series of presentations for the 1983 Scientific Session. A variety of subjects will be discussed. An effort has been made to focus on information that will be beneficial to physicians in their day-to-day medical practices. Indeed, the program is designed to enhance the physician's medical knowledge and professional competence. I am sure you will enjoy this learning experience, as well as the opportunity to visit with your friends and colleagues from throughout the state. I sincerely hope the 1983 Scientific Session is a rewarding one for you.



DR. RASSEKH

HORMOZ RASSEKH, M.D., President
Iowa Medical Society

PROGRAM

All speakers with an academic designation are members of the faculty at the University of Iowa College of Medicine unless otherwise noted.

SUNDAY, MAY 1

11:00 A.M. — REGISTRATION INFORMATION
Main Lobby — Marriott Hotel

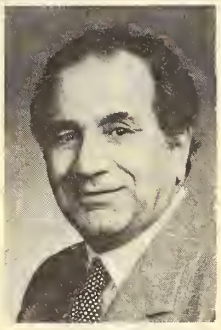
GENERAL SESSION

12:30 P.M. — LUNCHEON PROGRAM
WELCOMING REMARKS

Hormoz Rassekh, M.D.,
Council Bluffs
President, Iowa Medical Society

100 YEARS OF AMERICAN MEDICINE
Frank J. Jirka, M.D., Barrington, Illinois
President-elect, American Medical Association


DR. JIRKA


DR. RASSEKH

ALTERNATE DELIVERY SYSTEMS

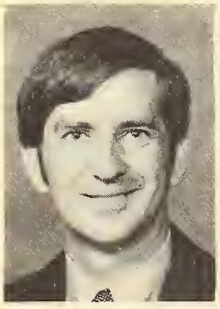
2:30 P.M. — THE NATIONAL SCENE

John J. Ring, M.D., Mundelein, Illinois
Chairman, Council on Medical Service, American Medical Association

THE IOWA SCENE:
Leo A. Milleman, M.D., Ames, Chairman, Committee on Alternate Delivery Systems, Iowa Medical Society

Question & Answer Session


DR. RING


DR. MILLEMAN

SPECIAL OPTION: 3:00 P.M. to 5:00 P.M.

CPR RECERTIFICATION

(Advance registration fee required.)
Veronika Abricka
CPR Coordinator
Department of Health Education
Mercy Hospital Medical Center, Des Moines

3:15 P.M. — A WORKING HOSPICE

The Reverend Marlin L. Whitmer, Davenport
Director of Pastoral Care, St. Luke's Hospital

F. Dale Wilson, M.D., Davenport
Medical Advisor, Hospice Care Group of Scott County

4:00 P.M. — UPDATE: HERPES AND ACNE

Randall R. Maharry, M.D., Des Moines
Private Practice of Dermatology

4:30 P.M. — PREVENTION AND MANAGEMENT OF POSTMENOPAUSAL OSTEOPOROSIS — BALDRIDGE-BEYE MEMORIAL LECTURE

Robert P. Heaney, M.D., Omaha, Nebraska
Vice President for Health Sciences
Creighton University School of Medicine


DR. MAHARRY


DR. HEANEY

6:15 P.M. — SPECIAL RECEPTION

The Iowa Medical Political Action Committee will sponsor a special reception for physicians and guests.

A feature of the reception will be the showing of a multi-media, panoramic view of IOWA: A PLACE TO GROW.

This outstanding presentation focuses on the "good life" in Iowa.

The reception will end at 7:30 P.M.

MONDAY, MAY 2

7:30 A.M. — REGISTRATION INFORMATION
Main Lobby — Marriott Hotel
(Coffee and rolls available)

GENERAL SESSION

8:00 A.M. — ERSKINE MEMORIAL LECTURE: NEW IMAGING TECHNIQUES
Peter K. Kirchner, M.D.,
Iowa City
Associate Professor of Radiology

8:40 A.M. — WHAT'S NEW IN MEDICINE — PART I

RADIATION ONCOLOGY
Hamed H. Tewfik, M.D.,
Iowa City
Director, Division of Radiation Therapy

OBSTETRICS & GYNECOLOGY
Norman K. Rinderknecht, M.D.,
Des Moines
Private Practice of Obstetrics and Gynecology

SURGERY
Robert J. Corry, M.D., Iowa City
Professor and Head
Department of Surgery

ORTHOPEDICS
William F. Blair, M.D., Iowa City
Assistant Professor of Orthopaedic Surgery


DR. TEWFIK


DR. RINDERKNECHT


DR. CORRY

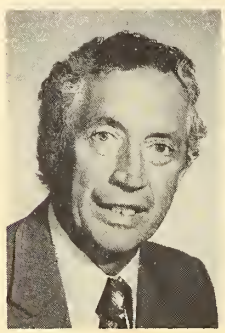
9:30 A.M. — TRANSPLANT SURGERY
Robert J. Corry, M.D., Iowa City
Professor and Head
Department of Surgery
Director of Transplantation

10:00 A.M. — RECESS

10:15 A.M. — ANXIETY
John Clancy, M.D., Iowa City
Professor of Psychiatry

10:35 A.M. — NEW DRUGS IN RHEUMATOLOGY: GOODBYE ASPIRIN?
Daniel E. Furst, M.D., Iowa City
Associate Professor of Internal Medicine

10:55 A.M. — CRITERIA FOR SAME-DAY SURGERY
Jackson D. Ver Steeg, M.D.,
Des Moines
Private Practice of Anesthesiology


DR. CLANCY


DR. VER STEEG

11:20 A.M. — COMMON CONGENITAL SYNDROMES
James W. Hanson, M.D.,
Iowa City
Associate Professor of Pediatrics

11:45 A.M. — RECESS

12:00 NOON — LUNCHEON PROGRAM

PHYSICIANS AND PATIENTS: NONVERBAL COMMUNICATION
Robert E. Rakel, M.D., Iowa City
Professor and Head
Department of Family Practice

1:30 P.M. — RECESS

1:45 P.M. — GENETIC ENGINEERING
John E. Donelson, Ph.D.,
Iowa City
Professor of Biochemistry

2:25 P.M. — DEMENTIA: A CLINICAL APPROACH
Neill Graff-Radford, M.D.,
Iowa City
Assistant Professor of Neurology

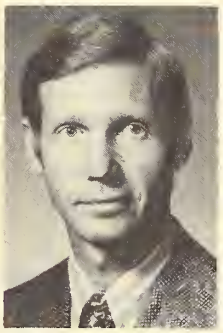
2:55 P.M. — CURRENT STATUS OF PERCUTANEOUS CORONARY ANGIOPLASTY AND THROMBOLITIC THERAPY FOR ACUTE INFARCTION: 1983
Carl W. White, M.D., Iowa City
Associate Professor of Internal Medicine
Director, Catheterization Laboratory

3:25 P.M. — WHAT'S NEW IN MEDICINE — PART II

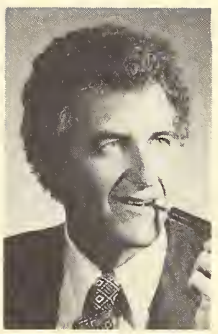
PEDIATRICS
Stanley I. Levine, M.D., Ottumwa
Private Practice of Pediatrics

GASTROENTEROLOGY
Nile S. Dusdeiker, M.D.,
Cedar Rapids
Private Practice of Gastroenterology and Hepatology

PATHOLOGY
John W. Green, Jr., M.D.,
Des Moines


DR. RAKEL


DR. WHITE


DR. LEVINE

Director of Laboratories
Iowa Methodist Medical Center

UROLOGY
Bernard Fallon, M.D., Iowa City
Associate Professor of Urology

4:15 P.M. — ADJOURNMENT

SPECIAL OPTION — CPR RECERTIFICATION

Physicians will have the opportunity to recertify in cardio-pulmonary resuscitation from 3 to 5 P.M. on Sunday, May 1. To accommodate all interested physicians, advance registration is required. A registration fee of $6 will be charged. Checks should be made payable to Iowa Medical Society and remitted to IMS Scientific Session, 1001 Grand Avenue, West Des Moines, Iowa 50265.

CME CREDIT

The 1983 Scientific Session of the Iowa Medical Society is co-sponsored by the University of Iowa College of Medicine. As an organization accredited for CME, the U. of I. College of Medicine certifies that this CME offering meets the criteria for 8½ hours in Category I of the AMA Physician's Recognition Award, provided it is used and completed as designated. In addition, the program has been approved for 9 hours of prescribed credit by the American Academy of Family Physicians.

LUNCHEONS

Sunday, May 1 — Frank J. Jirka, M.D., is president-elect of the American Medical

Association. He practices urology and resides in Barrington, Illinois. His luncheon topic "100 Years of American Medicine."

Monday, May 2 — Robert E. Rakel, M.D., is professor and head of the Department of Family Practice at the University of Iowa College of Medicine. Dr. Rakel will discuss "Physicians and Patients: Nonverbal Communication" at the Monday luncheon.

Advance reservations are required and there will be a charge of $11 for each luncheon program.

ACKNOWLEDGMENT

The physician members of the Iowa Medical Society give special thanks to the companies listed below for educational grants provided to support the 1983 Scientific Session.

Ayerst Laboratories
Blue Cross/Blue Shield of Iowa
CIBA Pharmaceutical Company
Geigy Pharmaceuticals
Eli Lilly & Company
A. H. Robins Company
Roche Laboratories
Smith, Kline and French Laboratories
The Upjohn Company

Appreciation is also extended to Blue Shield for sponsoring the coffee functions for physicians and their spouses, and to the Iowa Medical Political Action Committee for hosting the reception on Sunday, May 1. The Society is grateful for these courtesies.

1983 SCIENTIFIC PROGRAM PREVIEW

Here's what some of the speakers at the 1983 IMS Scientific Session say they are going to cover.

DEMENTIA

"A clinical approach to dementia will be presented, with a discussion of pertinent points in the history, physical examination, special investigations, differential diagnosis and treatment of patients with dementia. New developments in the pathology and epidemiology of dementia as well as in the diagnosis of normal pressure hydrocephalus will be mentioned." — **Neill Graff-Radford, M.D., Assistant Professor of Neurology, U. of I. College of Medicine.**

OSTEOPOROSIS

"Osteoporosis is a multifactorial disorder and probably has a spectrum of clinical presentations. Current evidence suggests it is best prevented by exercise, high calcium intake, and estrogens, alone or in combination. Currently available treatment stabilizes bone mass but does not restore lost bone. Various treatments currently being evaluated may do better in this regard." — **Robert P. Heaney, M.D., Vice President for Health Sciences, Creighton University, Omaha, Nebraska.**

HOSPICE ACTIVITY

"Four highlights will be (1) influences which helped Hospice begin in Scott County in 1979; (2) characteristic experiences of 'the team' in 3½ years; (3) volunteers with pastoral skills heighten the spiritual component, and (4) bereavement follow-up provides continuing care for the survivors." — **The Reverend Marlin L. Whitmer, Davenport, Director of Pastoral Care, St. Luke's Hospital.**

NEW IMAGING TECHNIQUES

"My presentation will review new imaging techniques in Nuclear Medicine and their clinical applications in the study of the heart, brain, gastrointestinal tract and other organs. The emphasis will be on functional assessment. A brief review of the principles and early applications of Nuclear Magnetic Resonance imaging will complete the presentation." — **Peter T. Kirchner, M.D., Associate Professor of Radiology, U. of I. College of Medicine.**

PEDIATRIC DEVELOPMENTS

"Exciting year in pediatrics. Neonatal mortality rates down, but Group B strep infections continue to be problem. More recognition in role of chlamydia in a variety of infections. Controversy about role of aspirin in pathogenesis of Reye's Syndrome. Emergence of intrauterine fetal surgery. Effect of adverse economy on child health supervision. 'Adoption' of the teenager and young adult by the pediatrician — their unique and difficult problems. Increasing pediatric involvement in educational and behavioral problems." — **Stanley I. Levine, M.D., Ottumwa, Private Practice of Pediatrics.**

LABORATORY UPDATE

"There will be a short discussion of laboratory methods for diagnosis and treatment, including current laboratory methods for the remarkable new disease spectrum, Acquired Immune Deficiency Syndrome (AIDS)." — **John W. Green, Jr., M.D., Des Moines, Director of Laboratories, Iowa Methodist Medical Center.**

ALTERNATE DELIVERY SYSTEMS

"A brief status report on alternate delivery system development in Iowa. The current ADS system operations in Iowa will be identified, including HMOs and PPOs with a note on future direction." — **Leo A. Milleman, M.D., Ames, Chairman, IMS Committee on Alternate Delivery Systems.**

HERPES AND ACNE

"Review of types of herpes and clinical manifestations. Discussion of current therapy. Also, treatment of acne with 13-cis retinoic acid (Accutane®)." — **Randall R. Maharry, M.D., Des Moines, Private Practice of Dermatology.**

RHEUMATOLOGY DRUGS

"There are several newer non-steroidal medications with properties different in some ways from aspirin. I will discuss these — as well as NSAID as a class. None is yet better than aspirin . . . although certain people respond to some NSAID better than others. I will present ways to help differentiate the NSAID." — **Daniel E. Furst, M.D., Associate Professor of Internal Medicine, U. of I. College of Medicine.**

RADIATION THERAPY

Here is what will be covered: "treatment of early breast cancer with lumpectomy and radiation therapy; advances in the treatment of small cell carcinoma of the lung; half body radiation therapy for palliative purposes; whole body irradiation in preparation for bone marrow transplantation; intraoperative radiation therapy; radiation surgery — gamma knife; radiosensitizers and their usefulness in radiation therapy; hyperthermia; and neutron therapy — external beam/implantation." — **Hamed H. Tewfik, M.D., Director, Division of Radiation Therapy, U. of I. College of Medicine.**

GENETIC ENGINEERING

"The laboratory techniques of genetic engineering will be briefly described. Several current examples of genetic engineering will be presented such as the construction of bacteria that synthesize human insulin or growth hormone and the use of DNA hybridization to screen amniotic fluid for carriers of several genetic diseases." — **John E. Donelson, Ph.D., Professor of Biochemistry, U. of I. College of Medicine.**

OB-GYN CHANGES AND ADVANCES

"I will attempt to present an overview of recent advances and changes in obstetrics and gynecology which might serve to help the busy physician keep abreast of contemporary information in this specialty." — **Norman K. Rinderknecht, M.D., Des Moines, Private Practice of Obstetrics and Gynecology.**

CURRENT ANESTHESIA MANAGEMENT

"Discussion of present basic concepts for patient selection. Provisions for safe care in outpatient surgery. Updated information on anesthesia management of the outpatient." — **Jackson D. Ver Steeg, M.D., Des Moines, Private Practice of Anesthesiology.**

CARDIAC CATHETERIZATION

"Discussion of present and future role of interventional cardiology in the catheterization laboratory." — **C. W. White, M.D., Director of Catheterization Laboratory, U. of I. College of Medicine.**

MEDICAL LOOK AT HOSPICE
"Advantages of home care will be discussed as well as diversified primary care physician, cost containment and family involvement." — **F. Dale Wilson, M.D., Davenport, Medical Advisor, Hospice Care Group of Scott County.**

ANXIETY OUTLOOK
"A review of current concepts of anxiety prognosis and treatment." — **John Clancy, M.D., Professor of Psychiatry, U. of I. College of Medicine.**

SURGERY DEVELOPMENTS
"I will update new operations and treatment modalities of surgery. We will review newer aspects of transplantation immunotherapy and update the results." — **Robert J. Corry, M.D., Professor and Head, Department of Surgery, U. of I. College of Medicine.**

NONVERBAL COMMUNICATION
"Nonverbal communication frequently conveys more information than does verbal interchange between physician and patient. Recognition of certain gestures (body language) and other nonverbal clues can alert the physician to the subtle manifestations of depression, anxiety, or anger in a patient. Illustrations will be used to emphasize gestures and other nonverbal actions that facilitate (or interfere with) doctor-patient communication." — **Robert E. Rakel, Professor and Head, Department of Family Practice.**

UROLOGY MATTERS
"Emphasis on prostheses — penile implants and artificial sphincters. Discuss endocrinology — percutaneous nephrostomy and percutaneous stone manipulation." — **Bernard Fallon, M.D., Associate Professor of Urology, U. of I. College of Medicine.**

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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

RUMINATIONS ON RUMINATING

LAST MONTH IN THIS SPACE I USED THE WORD "rumination" in the title (Ruminations on Basic Science Courses). I later began to ruminate on that word and checked its origin. I thought, then confirmed, that it dealt with the stomach of an order of hoofed mammals that chew their cud. The rumen is the first portion of the four-part stomach that characterizes such animals. For such ruminants, then, ruminating is essential to digest their natural foods, necessary to absorb nourishment.

Humans, of course, don't have rumens and therefore don't ruminate in the gastrointestinal tract. Yet we do ruminate, for our language has adopted an interesting metaphorical meaning — to muse, meditate, ponder, think again and again. In other words, ruminating has been transferred figuratively from the gastrointestinal to the nervous system. It has become an intellectual task, even though we speak sometimes of making a "gut response" and mean to differentiate that from an intellectual one. But indeed the metaphor is an apt one, full of visceral wisdom. It concerns absorption, not in the sense of chemicals crossing the intestinal epithelium, but a "counterpart" activity in the nervous system. I don't refer now to the absorption of nutriment by individual neurons — obviously, absorption in the intellectual sense is something different from that. The brain and the mind, after all, are not the same thing, even though mind requires brain. The adequate sustenance of brain requires the products of intestinal digestion and absorption, but the mind needs something very different. I'm reminded of Francis Bacon's essay of 1597, "Of Studies," containing this delightful statement: "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested." Obviously, Bacon was ruminating there on the same metaphor that connects the intestinal process to the intellectual one.

When it comes to foods, we can doubtless suffer from having too little or we can get too much of a good thing. In contrast, we often quote that old saw, "A little knowledge is a dangerous thing," but I've never heard anyone say that "A great deal of knowledge is a dangerous thing," nor do I know a corresponding metaphor that suggests obesity of the intellect (enormity, yes, but not obesity).

Rumination as a gastic or mental activity requires time — time in order to read, time to discuss ideas with others (although a few outstanding individuals seem to require little of that), and most of all time to reflect (or shall I say, think). In an operational sense, what do we actually *do* when someone says, "You need to think about that some more"? How do we actually will into being the process of thinking? Passively, we can set the issue aside, and hope for the "subconscious" maturing that often happens. Actively, we can seek more information or opinion by reading (watching), listening, speaking (discussing), or we can try writing something down. (The process of writing, and especially re-writing, can yield great improvement in clarity, flow, logic, and — even in scientific writing — aesthetic pleasure.) Reading, listening, speaking, writing, waiting — I can think of no others.

Unfortunately, not everyone seems to feel satisfaction while engaging in intellectual activity, but then again, one doesn't always feel gratified from eating, either. Some foods are more tasty than others and some more nourishing. We each make choices regarding our food; we correspondingly need to choose carefully that diet which is to serve as intellectual nourishment. Just as we should eat slowly enough to taste and judge the food we eat, so also should we ruminate on what we read or otherwise add to our intellectual storehouse.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

INTRAVENOUS NITROGLYCERIN: NEW USES FOR AN OLD DRUG

NITROGLYCERIN has been a mainstay of therapy in cardiovascular disorders for over 100 years. One of the earliest uses of this agent, the treatment of angina, was described in 1879 by William Murrell,[1] a physician who subsequently died from one of the recently introduced indications for intravenous nitroglycerin, i.e., severe refractory congestive heart failure. Since that time, a myriad of studies relating to the pharmacokinetics, mechanism of action, and therapeutic indications for this agent have been reported. This paper summarizes current knowledge about the use of continuous intravenous nitroglycerin and offers guidelines for the safe administration of this drug.

The current Food and Drug Administration (FDA) approved indications for continuous intravenous nitroglycerin include the following: unstable angina or coronary insufficiency and refractory coronary artery spasm; congestive heart failure complicating acute myocardial infarction; induction of controlled intraoperative hypotension; and control of blood pressure in perioperative hypertension.*

The assessment of efficacy of nitroglycerin in the therapy of some of these disorders in man is difficult due to the limitations in quantitative assessment of cardiovascular pathology in intact man. This is especially true in evaluating the potential role of this drug in protection of the ischemic myocardium.

HEMODYNAMIC EFFECTS

The hemodynamic effects of nitroglycerin stem from a primary action on the peripheral vascular system with a lesser direct cardiac effect. Nitroglycerin is a direct-acting vascular smooth muscle relaxant with predominant effects on the venous capacitance bed and lesser effects on the arteriolar resistance vessels.[2] The net result is usually a decrease in venous return to the heart with a resulting reduction in left ventricular end-diastolic volume (preload) and often myocardial oxygen consumption. This effect can be potentiated markedly by gravity and explains the occasional occurrence of syncope in patients taking nitroglycerin in the upright position. Nitroglycerin causes a lesser fall in systemic arterial pressure, and this may be compensated for by a reflex tachycardia. In normal man, nitroglycerin causes a slight decrease in cardiac output, a small reduction in mean arterial pressure and an increase in heart rate. However, in patients with ischemic heart disease or heart failure with elevated cardiac filling pressures, the net tendency is for an increase in cardiac output due to decreased afterload and for relief of pulmonary congestion by a decrease in preload. There is also some evidence to suggest some degree of direct inotropic effect of the drug.[3] The net result in these patients is a minimal fall in mean arterial pressure and either minimal or no increase in heart rate but a significant decline in left ventricular end-diastolic volume and an increase in cardiac output.[4]

Direct effects of nitroglycerin on the heart and coronary circulation have been debated for years. Nitroglycerin does appear to have some vasodilatory effect on large penetrating intramural coronary arteries[5] and may improve

* Potential indications include chronic severe congestive heart failure and reduction in myocardial infarct size.

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

epicardial-endocardial coronary perfusion ratios. In the ischemic myocardium, nitroglycerin has been reported in man and animals to produce dilatation of coronary collaterals to the ischemic bed.[6, 7] However, the direct effects of this agent on coronary vessels are felt to play little role in the relief of angina.[8]

It should be emphasized that the predominant antianginal effect of nitroglycerin in most patients depends on the peripheral vascular effects of the drug with resultant decrease in cardiac work (reduced preload, decreased left ventricular end-diastolic and end-systolic volumes and diameter, and decreased afterload) rather than on a direct effect on the coronary circulation.

PHARMACOLOGY AND PHARMACOKINETICS

The organic nitrates, including nitroglycerin, are rapidly metabolized by the hepatic glutathione-organic nitrate reductase system to glycerol dinitrate and mononitrates which are excreted by the kidney. This hepatic metabolism is very rapid with intravenous nitroglycerin having a plasma half-life of 1 to 5 minutes in animal studies.[9]

A degree of tolerance to the effects of oral and sublingual nitrates has been described with regard to their hemodynamic effects but not necessarily to their antianginal effects.[10, 11] The mechanism appears to be an alteration in a receptor site on the vascular smooth muscle wall.[12] Whether this effect will be seen with the prolonged administration of intravenous nitroglycerin remains unclear. However, even with the oral and topical preparations, there does not appear to be any important clinical significance to this tolerance.[13]

CLINICAL INDICATIONS AND EFFICACY

Refractory Angina, Coronary Insufficiency, Acute Myocardial Infarction

Conventional therapy of unstable angina consists of hospitalization, bed rest, oxygen, oral and topical nitrates, and beta adrenergic blockers. Even with this regimen, a small proportion of patients continue to have pain at rest with electrocardiographic changes suggesting intermittent myocardial ischemia. Nonrandomized studies have demonstrated pain relief in more than 75% of patients refractory to conventional management when placed on continuous intravenous nitroglycerin.[14] Animal studies have shown that intravenous nitroglycerin can improve myocardial ischemia.[15]

Flaherty and colleagues first described a potential benefit of intravenous nitroglycerin in reducing evidence of myocardial ischemic injury in patients with acute myocardial infarction compared to a control group.[16] A role of intravenous nitroglycerin in reducing infarct size by 30%, as judged by precordial ST segment mapping in man has been reported by Chiche, *et al.*, who have also reported reduced mortality.[17] In addition, Becker and associates showed in a prospective randomized study that intravenous nitrate therapy for 48 hours followed by topical nitrates improved myocardial perfusion following an infarction as judged by thallium-201 scanning.[18]

From a practical clinical standpoint, it appears that intravenous nitroglycerin shows promise as an adjunctive agent in the therapy of refractory pain in the setting of unstable angina or acute myocardial infarction. Whether this agent will play a role in reducing infarct size remains conjectural at present, and the use of this agent for such a purpose should remain investigational at this time.[19]

Variant (Prinzmetal's) Angina

Coronary artery spasm (variant angina, Prinzmetal's angina) is believed to account for part of the spectrum of angina pectoris seen in clinical practice. The spasm may be the sole pathophysiologic process or may be superimposed on atherosclerotic fixed coronary artery lesions. Nitroglycerin and the newer calcium antagonist drugs are the agents of choice for this condition. Topical and intravenous nitrates have been demonstrated to be effective in the therapy of this disorder.[20, 21] The intravenous form of the drug has been used by the intracoronary route of administration for the therapy of spontaneous or ergonovine-provoked coronary artery spasm seen in the cardiac catheterization lab.[22]

Congestive Heart Failure

When used as a continuous intravenous agent during invasive hemodynamic monitoring, nitroglycerin is a valuable agent for the therapy of congestive heart failure complicating acute myocardial infarction or severe chronic heart failure with acute exacerbation.[4]

(Please turn to page 98)

The agent causes a reduction in pulmonary capillary wedge pressure and also a rise in the cardiac index and stroke index. There is usually a small fall in mean arterial pressure but without evidence of a compromise in coronary perfusion pressure. There appears to be a fair degree of patient variation in the response, but almost all subjects require at least 15 micrograms per minute; careful hemodynamic monitoring is crucial in evaluating the effects of therapy and guiding dose adjustments.

One potential problem with the use of this agent in patients with severe congestive heart failure is the tendency for nitroglycerin to cause pulmonary vascular smooth muscle relaxation with resultant alteration in ventilation/perfusion balance such that arterial pO_2 may fall.[23] However, this effect can be closely monitored and the inspired oxygen concentration adjusted as needed.

Intraoperative Controlled Hypotension

Nitroglycerin infusion has been recommended for the induction of controlled intraoperative hypotension as an adjunct to general anesthesia in such procedures as craniotomy where a bloodless operative field is important. Compared to other vasodilating agents such as nitroprusside, nitroglycerin maintains significantly higher mean end-diastolic arterial pressures with comparable reductions in systolic pressure.[24] In addition, the problems with toxic metabolites and rebound hypertension seen with other agents do not appear to occur with nitroglycerin.

ADMINISTRATION GUIDELINES AND SIDE EFFECTS

Intravenous nitroglycerin (Tridil®, AmericanCritical Care; Nitrostat-I.V.®, Parke-Davis; Nitroglycerin®, Abbot; Nitro-bid I.V.®, Marion) must be administered by controlled infusion, preferably by a mechanical infusion pump. Intravenous filters, containers, and routine administration sets are known to decrease nitroglycerin concentration by 2 to 55%[25] as a function of drip rate, surface area, length of tubing exposure, and tubing material by an absorption process. For this reason, the drug should be administered through the shortest route of nonpolyvinyl chloride tubing (i.e., polyethylene-ethyl-vinyl acetate combination).

Because this agent has potent rapid-acting hemodynamic effects, we recommend that it be administered only under conditions of hemodynamic monitoring. For the therapy of unstable angina, intraarterial pressure monitoring may suffice. However, in the setting of an acute myocardial infarction or congestive heart failure, knowledge of cardiac filling pressure is essential to guide dose selection and therapy, and thus a Swan-Ganz catheter is mandatory.

Significant hemodynamic effects are rarely seen at doses less than 15 micrograms per minute. The usual dosage range is 15 to 100 micrograms per minute with the dose titrated to achieve the desired hemodynamic (i.e., lowering of pulmonary capillary wedge or systolic arterial pressures) or clinical (i.e., angina relief) effect.

Side effects with intravenous nitroglycerin are uncommon with carefully monitored administration. Nausea, vomiting, hypotension, hypoxemia, decreased cardiac output, and tachycardia have been reported. However, these can be rapidly reversed by discontinuing the agent or administering fluids and can be rapidly recognized with careful hemodynamic monitoring.†

SUMMARY

Nitroglycerin as an intravenous drug functions as an easily titratable agent for the therapy of a number of cardiovascular disorders where vasodilation is needed. While predominantly a venous vasodilator, the drug also causes some reduction in arteriolar resistance. When used under conditions of hemodynamic monitoring, intravenous nitroglycerin is a useful agent for the therapy of unstable angina, recurrent ischemic pain or heart failure complicating an acute myocardial infarction, chronic severe congestive heart failure, refractory coronary artery spasm, and for the induction of controlled hypotension during selected surgical procedures. This agent offers certain distinct advantages over previously used vasodilators in carefully selected cases. — David W. Ferguson, M.D., *Associate, Cardiovascular Division, Department of Internal Medicine and Merck Foundation Fellow of the American College of Cardiology.*

† Intravenous nitroglycerin is contraindicated in patients with hypersensitivity to organic nitrates, hypotension or uncorrected hypovolemia, increased intracranial pressure, hypertrophic subaortic stenosis, and constrictive pericarditis/tamponade.

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STATE DEPARTMENT/ PUBLIC HEALTH

BASIC EMERGENCY MEDICAL CARE — PROPOSED LEGISLATION

This discussion has been prepared by Douglas K. York, REMT-P, director, Emergency Medical Services Section, Iowa State Department of Health.

THE ADEQUATELY TRAINED ambulance attendant has a great opportunity to alleviate human suffering at the scene of accidental injury or sudden illness and during transportation to a hospital. With proper training and experience, equipment and supplies, radio communications, and a vehicle designed to meet the needs of the injured or sick, these individuals (many of them volunteers) make valuable members of the health care team with their prehospital service. The absence of these essential components compromises the ability of the ambulance attendant to render emergency care. It also jeopardizes the future well-being of the patient for whom responsibility has been assumed.

Whether injury or sudden illness occur at home, at work, on the highway or at a recreational area, there is rarely a physician at hand to provide initial care. Even though parents, friends or bystanders may have had first aid instruction, they are limited in their ability to transport and sustain life in victims with life-threatening conditions.

Regardless of the circumstances encountered when responding to an emergency call, the ambulance attendant must recognize from the moment care of the patient is assumed, there is a responsibility to provide emergency care to the fullest extent and ability until a physician or other qualified person, at the scene or at the hospital, accepts responsibility for the continuation of care.

The only entry in the Iowa Code that now addresses the operation of ambulances is Chapter 147A. It deals specifically with "advanced care" services. Since the enactment of that law on July 1, 1978, approximately 90 ambulance services have been authorized at one of the advanced care levels.

The Governor's Emergency Medical Services Advisory Council (GEMSAC), the Iowa State Department of Health, and many others, believe Iowa now needs to establish minimum and reasonable standards regarding ambulance services operating at the *basic care* level, including a minimum training requirement for ambulance attendants. Recognizing that it is simply not economically feasible or realistic to expect "paramedic" services in every community, the most appropriate person to provide this minimum level of care is the Basic Emergency Medical Technician-Ambulance (EMT-A).

The proposed legislation requires that at least 2 persons be dispatched on each call, one of whom shall be a certified Basic EMT-A. The 20 items listed in the "Essential Equipment for Ambulances," as published by the Committee on Trauma, American College of Surgeons, would also be required for each ambulance authorized by the Health Department.

Presently, individuals wishing to provide ambulance service may do so without any training or equipment. They can operate a station wagon for patient transportation if they so desire. In essence, all that is necessary is to obtain a "red light" permit from the Department of Transportation. As a result, not only is there a potential danger for the patient, but also for the "ambulance" crew as to potential liability. With just over 400 ambulance services

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

in Iowa, many being volunteer units, it is the considered opinion of GEMSAC and the State EMS Section that the proposed legislation should establish "minimum" *not* "maximum" standards. As a result, legislation was drafted with the rural volunteer in mind.

The role of the physician in providing prehospital care is essential. GEMSAC and the State EMS Section have been working with the EMS Committee (chaired by Michael Abrams, M.D.) of the Iowa Medical Society to draft this proposed legislation, as well as the proposed administrative rules with which it would be implemented. The input of the physicians on that committee, and of other involved physicians, has been most valuable. The need for physician participation with ambulance services is a real one that will enhance the planning and delivery of prehospital care. The physician can give direction and guidance to ambulance crew members through ambulance run critique sessions (to monitor and evaluate the basic emergency medical care being provided), by arranging for crew members to gain clinical experience, by assessing continuing education needs, and so on.

Any time a change in the status quo is proposed, there are some misunderstandings about what is — or is not — actually being proposed. The proposed legislation would not:

A. Change the length of the Basic EMT-A training course. It is 120 hours now and it will be 120 hours when the law is targeted to become effective (July 1, 1985).

(Please turn to page 102)

January 1983 Morbidity Report

Disease	Jan. 1983 Total	1983 to Date	1982 to Date	Most Jan. Cases Reported From These Counties
Amebiosis	1	1	8	Jefferson
Brucellosis	0	0	0	
Chickenpox	754	754	895	Dubuque, Polk, Des Moines
Compylobacter	22	22	—	Dubuque, Polk, Linn
Cytomegolovirus	2	2	—	Polk, Scott
Eoton's Agent infection	36	36	25	Polk, Johnson, Linn
Encepholitis, virol	3	3	0	Iowo, Mohosko, Winneshiek
Erythemo infectiosum	3	3	18	Buchonon
Gostroenteritis (GIV)	1559	1559	1070	Polk, Linn, Scott
Giordiosis	19	19	5	Muscotine, Johnson, Monroe
Hepotitis, A	2	2	8	Henry, Webster
Hepotitis, B	4	4	6	Polk
Hepotitis, Non A-B	1	1	1	Clinton
Hepotitis type unspecified	2	2	0	Jahnson, Tomo
Herpes Simplex	58	58	26	Johnson, Polk, Scott
Herpes Zoster	3	3	0	Polk, Pottowottamie
Histoplosmosis	0	0	6	
Infectious mononucleosis	17	17	24	Linn, Polk, Pottowottomie
Influenzo, lob confirmed	1	1	0	Kossuth
Influenzo-like illness (URI)	3242	3242	3786	Johnson, Linn, Polk
Legionellosis	1	1	—	Johnson
Molorio	0	0	—	

Disease	Jan. 1983 Total	1983 to Date	1982 to Date	Most Jan. Cases Reported From These Counties
Meningitis				
oseptic	10	10	3	Linn, Polk, Story
bocteriol	15	15	15	Linn, O'Brien, Dollos
meningococcol	3	3	1	Lee, Mitchell
Mumps	17	17	5	Floyd, Mitchell, Winneshiek
Pertussis	1	1	0	Pottawottomie
Robies in onimols	13	13	28	Linn, Polk, Woodbury
Reye Syndrome	0	0	—	
Rheumotic Fever	0	0	0	
Rubello (Germon meosles)	0	0	0	
Meosles	0	0	0	
Solmonellosis	15	15	10	Linn, Polk, Woodbury
Shigellosis	1	1	3	Johnson
Toxic Shock Syndrome	1	1	—	Des Moines
Tuberculosis				
totol ill	8	8	3	Block Howk, Woodbury, Keokuk
boct. pos.	7	7	3	Block Howk, Woodbury, Scott
Typhoid Fever	0	0	—	
Venereol diseoses:				
Ganorrheo	363	363	314	Polk, Scott, Block Hawk
Syphilis	2	2	1	Johnson, Pottowottomie

Laborotary Virus Diagnosis Without Specified Clinical Syndrome: Adenovirus — 2, Linn; 1, Lucos; 3, Polk; 1, Winneshiek; Hookworm — 1, Scott; Echovirus — 1, Des Moines; 3, Dubuque; 1, Johnson; 2, Polk; 3, Scott; Coxsockie — 1, Scott.

STATE DEPARTMENT/PUBLIC HEALTH

(Continued from page 101)

B. Change the continuing education requirements. It is presently 24 hours every 2 years now (plus current certification in Basic Cardiac Life Support) and it will be the same in 1985.

C. Require the immediate purchase of a new ambulance. Any ambulance in use prior to the effective date of the law would be permitted to continue in operation. When that ambulance wears out, however, the "new" ambulance to be purchased, leased or otherwise procured must then comply with certain minimum standards.

This legislation will ensure that every patient receives a nationally recognized minimum level of care at the scene of an emergency and during transportation to a hospital by a trained and certified EMT-A. EMS has progressed to the point that the lay person perceives, and has come to expect, a certain level of care. Over 40 of the 50 states currently have such legislation, including the 6 states surrounding Iowa. The time has come for Iowa to move forward in establishing a sound system of Basic Life Support.

If you would like a copy of the proposed legislation, or have any questions or comments, please write or call: Douglas K. York, REMT-P, Director, Emergency Medical Services Section, Iowa State Department of Health, Lucas State Office Building, Des Moines, Iowa 50319. (1-515-281-4962).

FOR SPECIALTY GROUPS

The Iowa Medical Society annual briefing for officers of state medical specialty groups will be March 23 at Society headquarters. The discussion will deal particularly with health care utilization data and cost containment. The event is coordinated by the IMS Department of Specialty Services.

Robert A. Pfaff, M.D., president, Iowa Foundation for Medical Care, will present an informational update on outpatient/same day surgery. Clarence H. Denser, Jr., M.D., will report on current developments related to health care legislation.

BRIEF SUMMARY
PROCARDIA® CAPSULES For Oral Use
(nifedipine)
INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PRDCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.
II. Chronic Stable Angina (Classical Effort-Associated Angina): PRDCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.
In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.
Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)
CONTRAINDICATIONS: Known hypersensitivity reaction to PRDCARDIA.
WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PRDCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.
Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PRDCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PRDCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out.
Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PRDCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.
Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PRDCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PRDCARDIA.
Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.
PRECAUTIONS: General: Hypotension: Because PRDCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)
Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PRDCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.
Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.
Long-acting nitrates: PRDCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
Digitalis: Administration of PRDCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PRDCARDIA to avoid possible over- or under-digitalization.
Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.
Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.
ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PRDCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.
In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.
Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGDT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy, has been reported twice in the extensive world literature.
HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PRDCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.
More detailed professional information available on request.

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."



Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks, taking fewer nitroglycerin tablets, doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



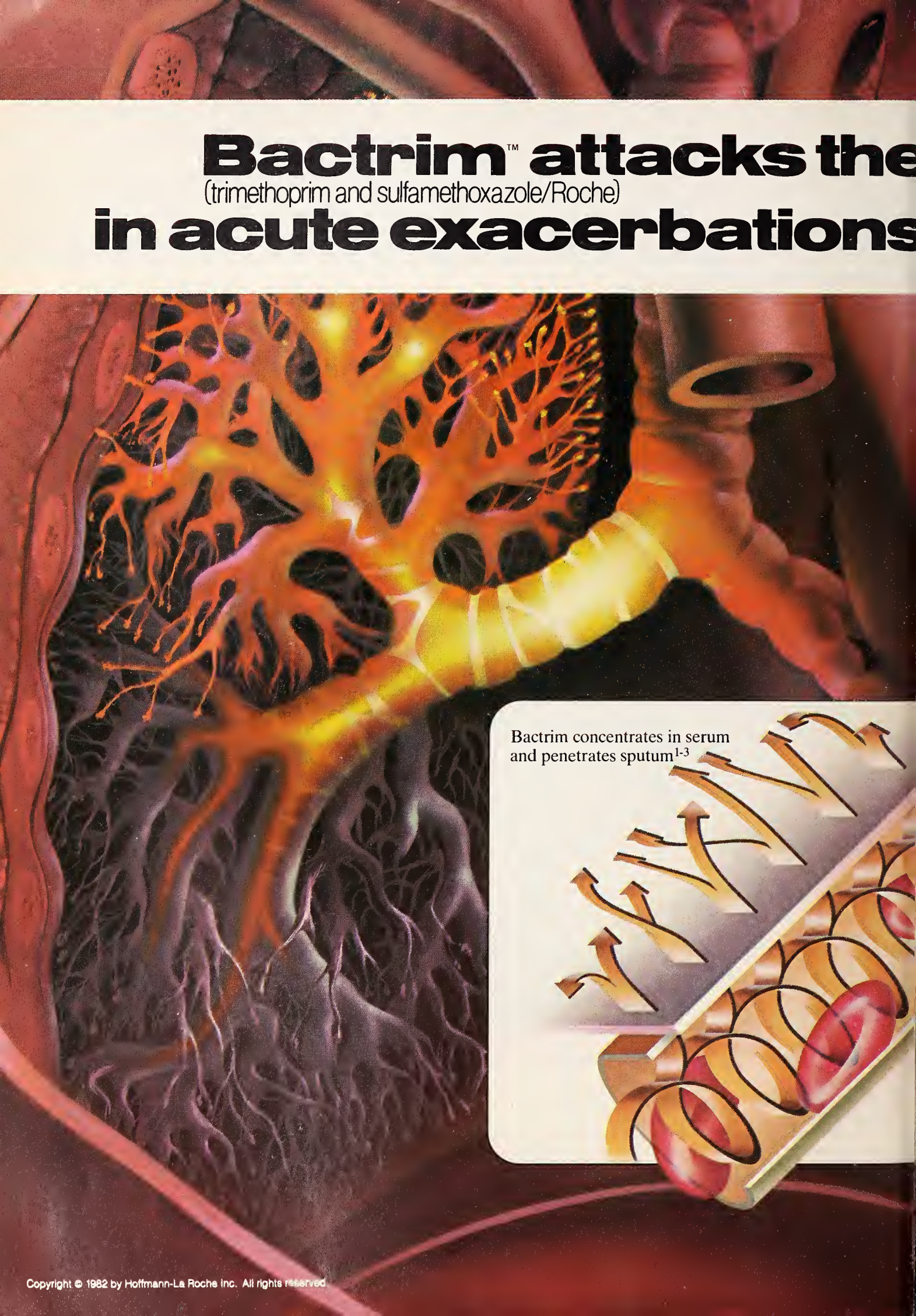
for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA *brief summary on adjoining page.*

Bactrim™ attacks the
(trimethoprim and sulfamethoxazole/Roche)
in acute exacerbations



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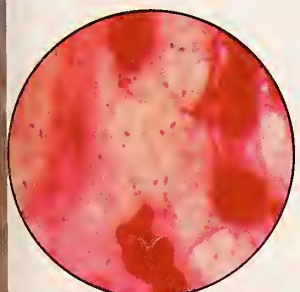
major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

acks *H. influenzae*—even
mpicillin-resistant strains



attacks *S. pneumoniae*



Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother I/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J II2*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother I*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection 6*(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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ABOUT IOWA PHYSICIANS

Dr. L. D. Foster has been named president of the medical staff at Skiff Memorial Hospital in Newton. **Dr. T. E. Jessen** was named vice president, and **Dr. A. S. Martin,** secretary-treasurer. All are Newton physicians. . . . **Dr. Ted J. Akers,** Tama, recently was given a national award in "recognition and appreciation of outstanding performance in the delivery of primary health care to the citizenry of Toledo, Iowa." The U. S. Public Health Service gave the award at the annual National Health Service Conference in Salt Lake City, Utah. While attending the conference, Dr. Akers presented information on practice techniques to new National Health Service Corps physicians. . . . **Dr. Jack L. Crain,** Des Moines, recently received board certification in reproductive endocrinology. . . . At the annual meeting of the Woodbury County Medical Society, **Dr. Richard L. Vaught** was installed as president; **Dr. Robert A. Boldus** was chosen president-elect; **Dr. Robert E. Ashmore,** secretary, and **Dr. Jack L. Bristow,** treasurer. All are Sioux City physicians. . . . **Dr. W. Gregory Halverson** will join Medical Associates in New Hampton in the fall. Dr. Halverson received the M.D. degree at the U. of I. College of Medicine and is now completing his family practice residency at Broadlawns Medical Center in Des Moines. Dr. Halverson served his third year family practice preceptorship in New Hampton last September.

At the annual meeting of the Clinton County Medical Society, **Dr. John M. O'Shea** was elected president; **Dr. Gary Land,** vice president, and **Dr. Joseph A. Rapagnani,** secretary-treasurer. All are Clinton physicians.

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DEATHS

Dr. Raymond R. Rembolt, 71, professor emeritus of pediatrics at the U. of I. College of Medicine, died January 19 at the Solon Care Center. Dr. Rembolt received the M. D. degree at the University of Nebraska School of Medicine. He joined the U. of I. College of Medicine faculty in 1948 and was director of the University Hospital School from 1952 until his retirement in 1977. Dr. Rembolt was a past president of the American Academy for Cerebral Palsy; member of the Committee on Handicapped Children of the American Academy of Pediatrics and served as chairman of the Academy's Iowa chapter. He served 10 years as a liaison representative to the National Easter Seal Society and also served that group on its national advisory board. Dr. Rembolt was a member of the American Academy of Neurology and National Advisory Council of the U. S. Department of Health, Education and Welfare.

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In The Public Interest

A Checklist From the IMS

These remarks by IMS President Hormoz Rassekh, M.D., were submitted to the DES MOINES REGISTER *after a February 9 editorial on Iowa health care developments. These IMS comments appeared in the February 25* REGISTER *in a condensed form along with similar opinions from the Iowa Hospital Association and Blue Cross/Blue Shield.*

A REGISTER editorial February 9 said physicians and health administrators have failed to curb health costs. For a solution, it said, we must turn matters over to businessmen and politicians.

It is unthinkable that physicians, and other health care officials, should be eliminated from medical cost considerations. Without this expertise, even those best-informed outside the health care environment will have little impact on costs.

We offer your readers a 6-point checklist that will help all of us curb health costs. While not all-inclusive, the list has main points encouraged by Iowa physician leaders. The items are neither new nor revolutionary; they are not quick fixers; they are just sound philosophy for our times.

MAKE IT A TEAM EFFORT — Our common goal is to continue to deliver quality care efficiently and at a fair cost. To achieve this, input must come from many interested and informed parties. The physician must continue to decide the nature and duration of patient care. The businessman/employer knows his capacity to finance health benefits. The hospital administrator has valuable experience with more costly inpatient care. The legislator (as well as other government officials) is there to represent constituents. Together, we must seek the overall good — being willing to examine complex factors. Compromises by each group may be necessary; however, quality and patients' rights should not be jeopardized in the name of cost containment. Quality health care is medicine's goal, not "essential" health care as espoused by others. Who is going to define "essential" and where does this place a patient in the decision making process?

PROMOTE OUTPATIENT/AMBULATORY CARE — Business and health insurors more and more are providing benefits for less-expensive outpatient care, a concept long advocated by medicine. Same-day surgery is becoming common in Iowa with patients going home soon after certain procedures. Hospital emergency room use should occur only when conditions require it; care in the physician's office is of equal quality and less expensive.

CONSIDER PATIENT INVOLVEMENT — When there is a personal stake in the cost of care the inclination is to use benefits more cautiously. Deductibles, co-payments, etc., raise consumer consciousness about costs. Such measures are needed but they should not be a deterrent to necessary care. Innovative approaches have been adopted recently by several Iowa businesses to reward the prudent worker for staying well and not using insurance benefits on minor matters.

UNDERSTAND AND SUPPORT PROFESSIONAL REVIEW — Doctor-sponsored peer review has worked closely with physicians, hospitals, business, health insurors and government to foster quality and assure efficiency in health care delivery. This peer review is having an increasing impact on hospital admissions and lengths of stays. This performance has various ramifications. As peer review helps physicians reshape treatment locations and patterns, we must prepare to address the economic consequences of hospital personnel reduction and perhaps even closure. Be prepared, as well, to accept the fact that someone in your family may be told hospitalization is not needed, that your condition can be treated on an outpatient basis.

EXPERIMENT WITH ALTERNATE DELIVERY APPROACHES — Iowa has several new health care delivery systems. Such experimentation is good and will go forward. In the Quad-Cities and in Waterloo, business and health interests have established health maintenance organizations with physician service coming through related independent practice associations. They're striving to keep quality high while attempting to bring more predictability and incentive to the cost side; so far the results appear positive. In Dubuque, another type of prepaid HMO began in 1982, inspired also by medical and business interests. Elsewhere in Iowa physicians are exploring alternate delivery concepts with third party payors and other organizations. Abandoning the historically successful doctor-patient/fee-for-service mode of care without ample testing of other methods is unwise.

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Legislation now before the General Assembly will make changes in Iowa health care delivery. The medical profession generally is reluctant about more law being enacted, believing that which governs least governs best. In this instance, the Iowa Medical Society, for one, supports most aspects of the current House bill (HF196). At medicine's urging allowance has been made for patient confidentiality and for assuring the accuracy of health care data. A provision to insert corporate entities between the patient and the physician is of concern and will not reduce costs. Nonetheless, the Iowa Medical Society is supporting the bill with concern only over certain limited provisions.

In summary, medicine desires to continue to work with other interested parties — on the preceding items and others — for the good of all.

March 1983

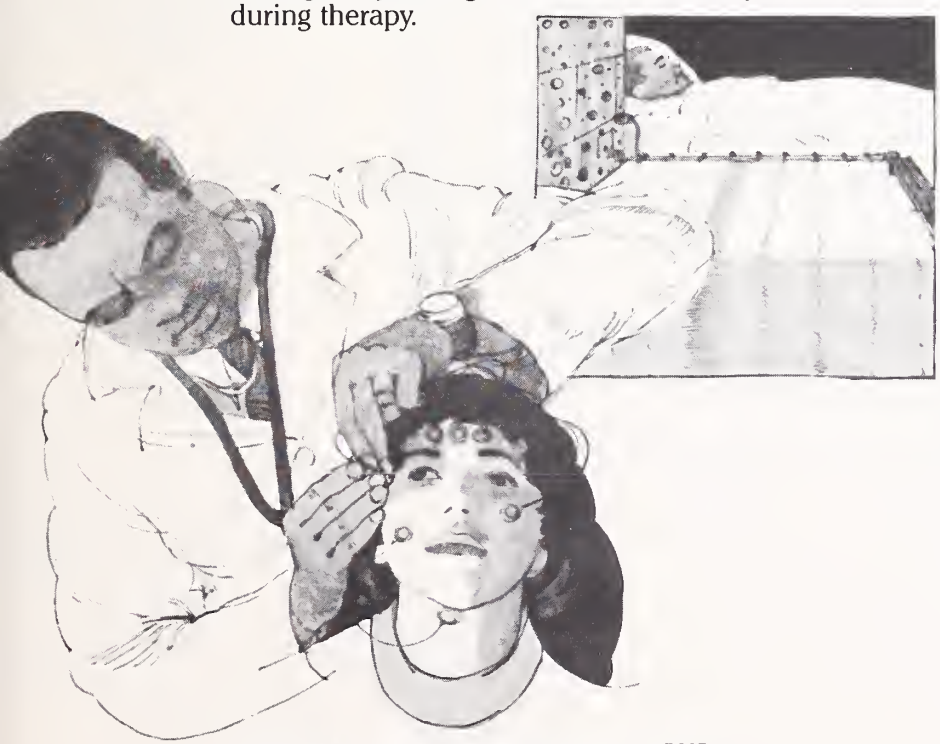
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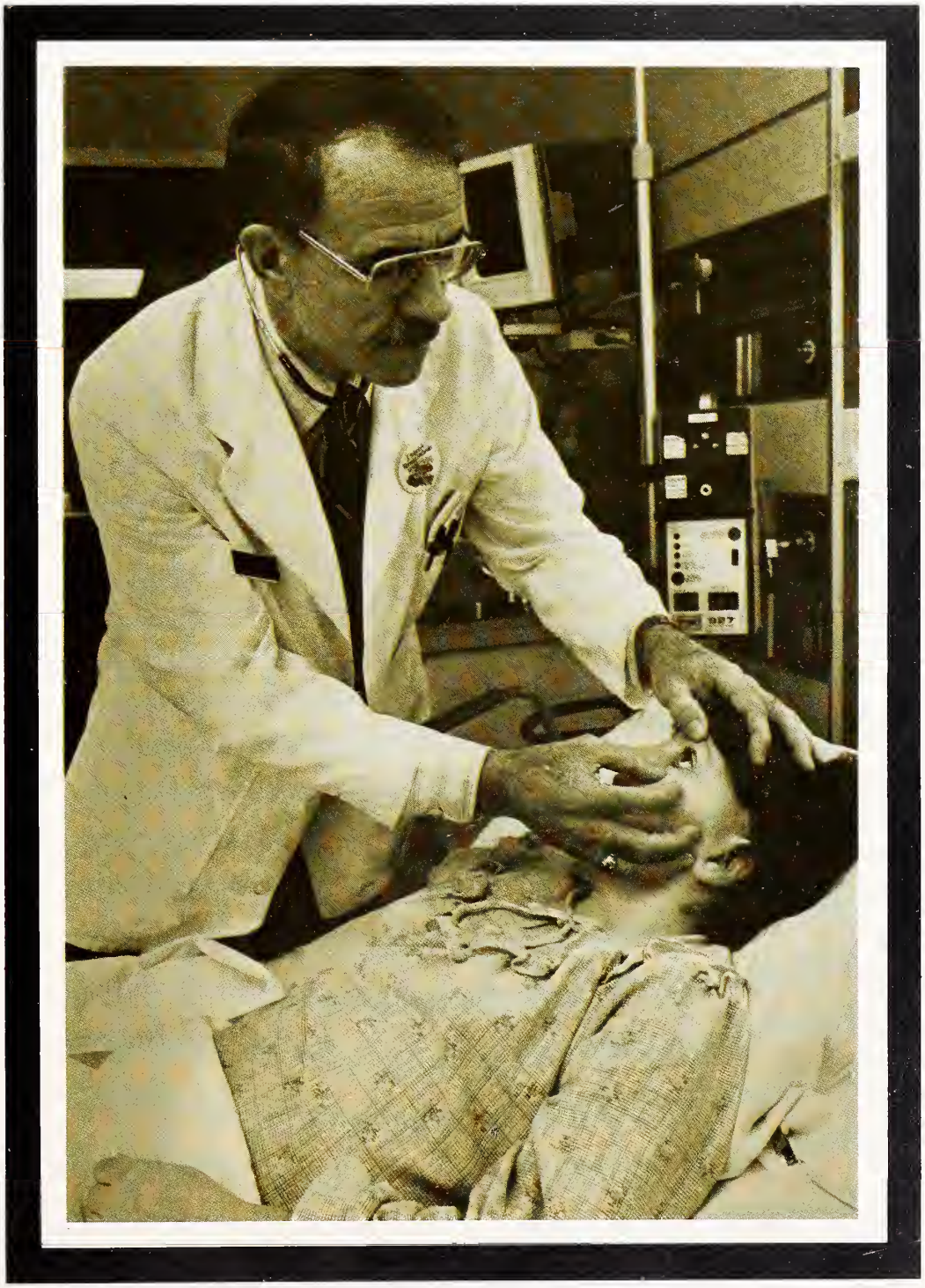
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See Page 130

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JOURNAL OF THE

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APRIL 1983/VOLUME 73 NUMBER 4

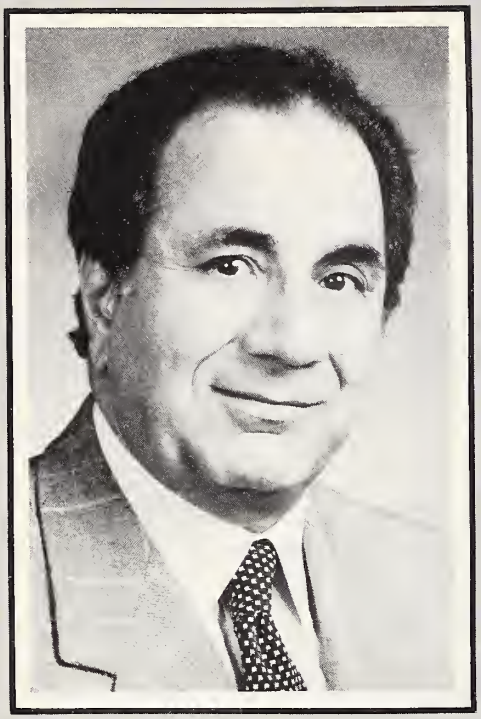
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ABOUT THE COVER — Pictured with an adolescent patient is Fred Smith, M.D., professor and head, Department of Pediatrics, U. of I. College of Medicine. The setting is the 6-bed Intermediate Care Unit of the Iowa Children's Health Care Center where school-age and adolescent children are served. Another 6-bed ICU serves infants and toddlers. See Page 130 for more about the new Center.



PRESIDENT'S PRIVILEGE

HOUSE NEAR AT HAND

THE 1983 session of the Iowa Medical Society House of Delegates is near at hand (April 30/May 1). Let me cite the importance of this meeting one more time. If you said you would serve as one of the approximately 250 delegates to the 1983 IMS House, you have an interesting and important job to do. The physicians who represent their county medical societies as delegates do so at a time when an array of significant issues are impacting on our practice environment.

We need to examine these issues thoughtfully. We need to set basic directions for the future. We need for the medical profession to demonstrate its leadership claims. We need to strive for unity. This is why we have the House of Delegates.

Those who participate in the House perform a valuable service. All member physicians should know and appreciate that their colleague delegates will be in Des Moines to examine, debate and act on the petitions submitted. We urge those who have accepted this delegate responsibility to be present for the deliberations.

As grist for the 1983 House, and believing it to serve a worthy purpose, the IMS board of trustees expects to submit a statement which addresses in broad terms the medical care concerns and challenges of the day. This document proposes to comment on the responsibility of the profession to oversee its ranks; to the newly emerging modes of care delivery; to the imposing and widely-impacting economic pressures of our time — and above all, it will restate our commitment to quality care and patient advocacy.

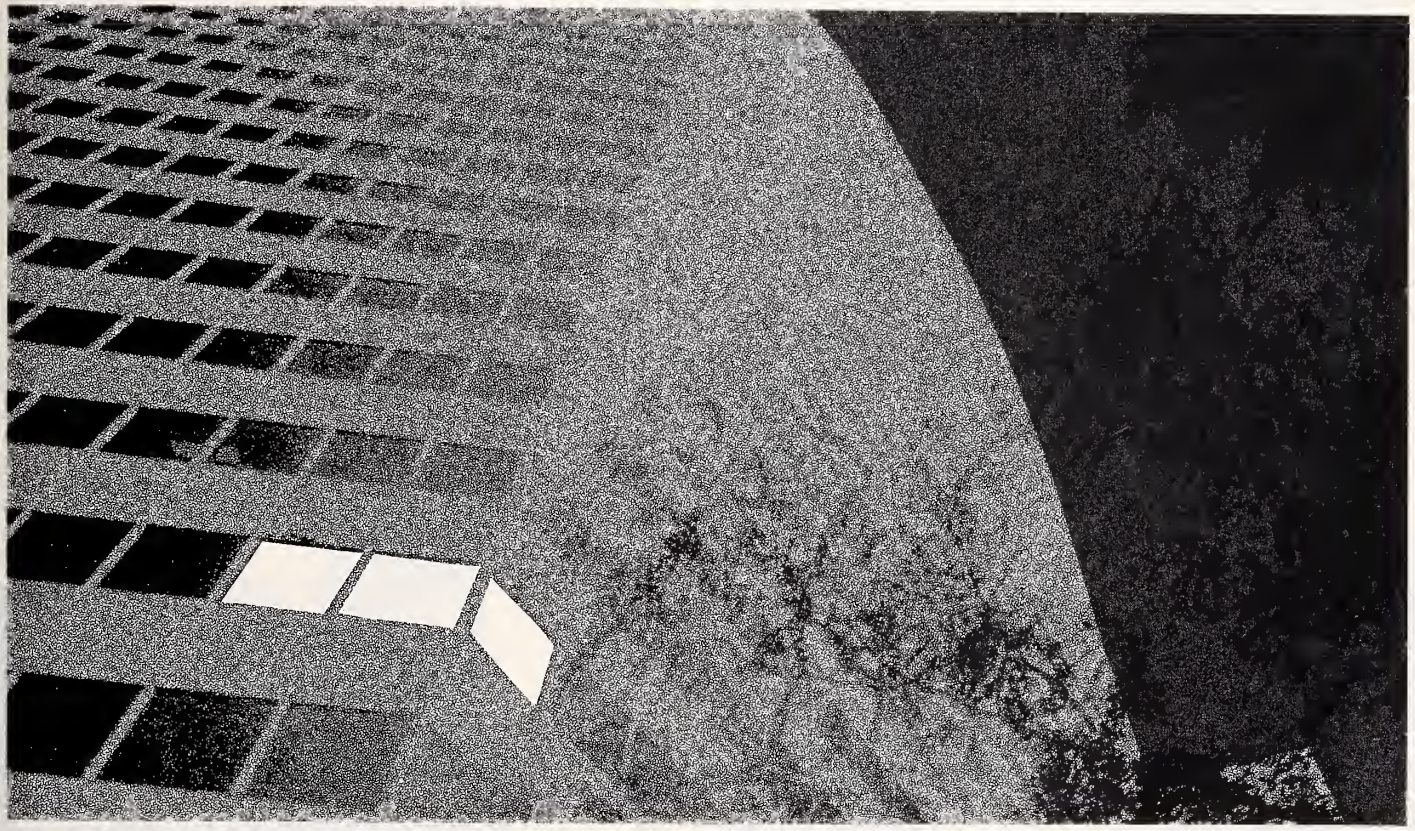
If the 1983 House of Delegates supports the statement (with modification if appropriate) we expect to distribute the document to all member physicians.

Incidentally, the House is open to all interested member physicians. You are welcome to attend.

H. Rassekh

Hormoz Rassekh, M.D.
President

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As The Dean Sees It

College of Medicine Back to Basics



JOHN W. ECKSTEIN, M.D.
Iowa City, Iowa

The numbers game has not been our thing, says the Dean. Rather, he declares, it's doing what we do best: "research, education and demonstration of high quality patient care."

THROUGHOUT THE '70's, medical educators everywhere were coerced by state and federal governments — cheered on by the media — to break out of the Flexner lockstep mold of medical education and correct both the shortage and the maldistribution of doctors at all costs — preferably overnight.

In quick response, old schools expanded enrollments and new schools were founded on the basis of perceived needs and political expediency. Much of that expansion was accomplished with enrollment outstripping both faculty and facilities. New standards were created to accommodate such concepts as "schools without walls" and Area Health Education Centers (AHECs), which placed the burden of clinical education on the physician and hospital communities. In many situations, financial and political expediency took license with academic standards in the rush to make more doctors. Whether such drastic measures were necessary will be debated for some time — but that the doctor crisis is being corrected, there is no doubt.

The medical education establishment in the eighties finds itself somewhat in the same position as an industry expanded to prosecute a war, after the peace treaty has been signed. With its wartime mission accomplished, the government that had taken it over to gain one objective now abandons it back to the marketplace. What does this mean for The University of Iowa College of Medicine?

In the first place, the University was restrained in its response to the shortage, limiting its enrollment increase to 40% — enough to match the attrition rate of Iowa physicians. Second, facilities were expanded cautiously to accommodate the increased number of students, and only modest involvement of the community was needed to provide balanced clinical experience. Third, the College concentrated on the problems of correcting maldistribution, which in Iowa greatly overshadowed the shortage of physicians.

These efforts were undertaken without having to reorganize the traditional programs of the College. With programs in place that correct the number and maldistribution of physicians in the state, it is "back to basics" for the College of Medicine. Back to what we do best: research, education, and demonstration of high quality patient care.

The new physicians will have to know more and be more skillful than their predecessors — and, as the marketplace fills, more competitive to survive. Medical school is still only 4 years in length, while medical knowledge has grown exponentially each decade. Reconciling this dichotomy is what medical education is all about. It takes good students and full-time effort of top-flight faculty to make doctors. We are prepared to concentrate our efforts on this primary mission of the College in the decade ahead.

Dr. Eckstein is dean of the College of Medicine at the University of Iowa.

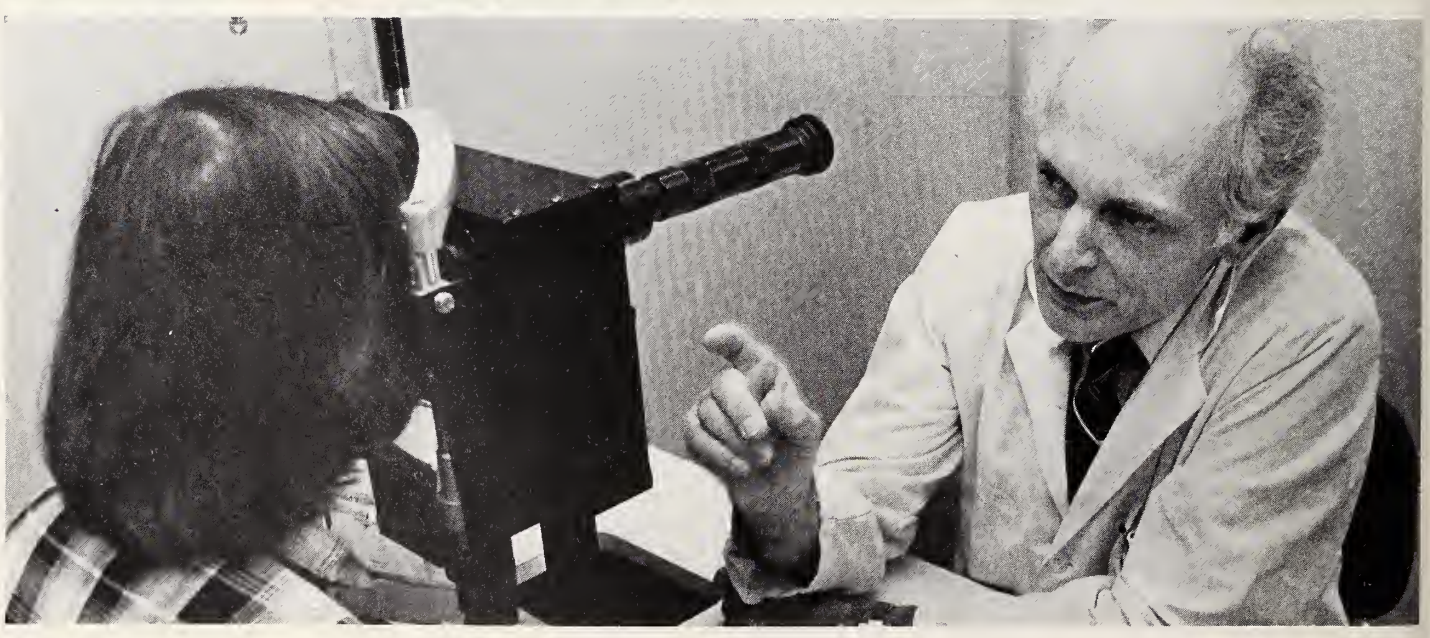


The 'High Tech' Era

In 1819, Rene Laennec's newly-invented stethoscope was the "high-tech" of its time, at the cutting edge of diagnostic medicine and the marvel of medical practitioners and patients alike.

In the years since Laennec, the technology has become infinitely more complex and exponentially more expensive. From computers that talk, to instrumentation that reaches out from a satellite to sample radiation from the Northern Lights, ongoing technological developments yield knowledge beyond the wild-

UPPER LEFT — A person's walk is tracked precisely at the U. of I. College of Medicine Gait Analysis Laboratory. Here, Doug Pedersen, research assistant in orthopedic surgery, holds a triad of light-emitting diodes (LEDs) — one of three such units attached to the hip, mid-thigh and mid-shank. Valuable information about skeletal motion is produced via photographed images. Data emerges to help predict muscle forces in the leg, a benefit in orthopedic surgery research. BELOW — Images can be formed on the retina without using the optics of the eye with this Iowa-developed laser interference visual acuity testing device. It helps determine visual acuity of the retina even with corneal scarring or a cataract on the lens. Hansjoerg E. Kolder, M.D., professor of ophthalmology, is shown with a patient; he uses information produced pre-operatively and non-invasively to make a prognosis on a corneal transplant or cataract procedure. UPPER RIGHT — Images obtained by this state-of-the-art scintillation camera can be analyzed for maximum information content through the application of computer technology. When the image is computer processed its

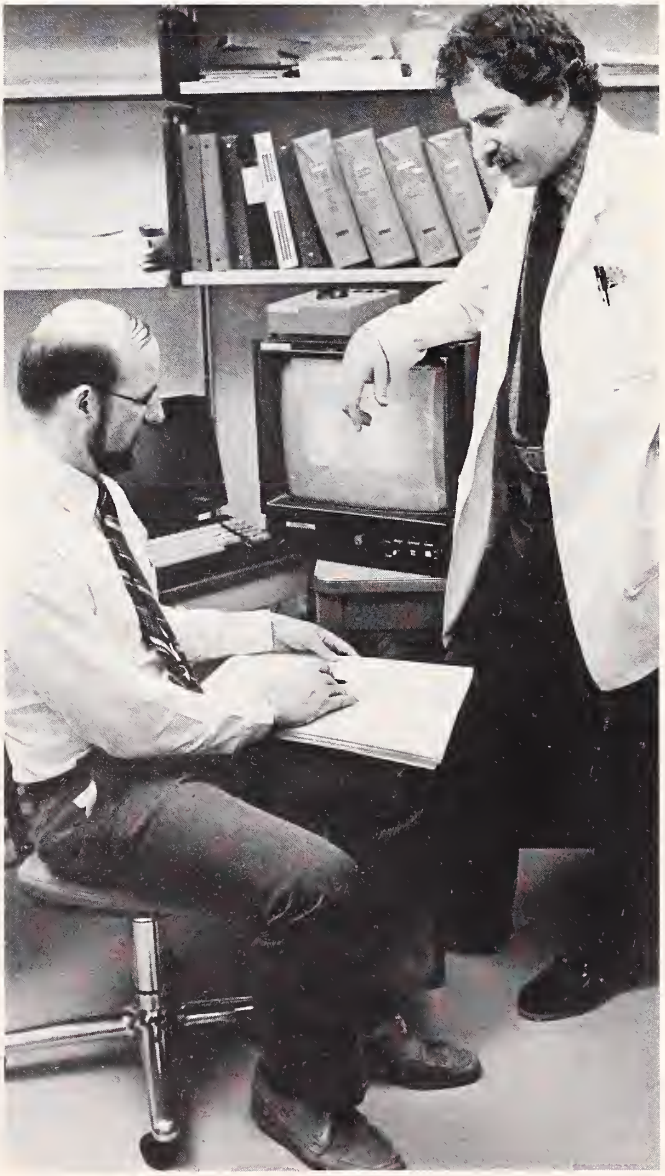


In Iowa Medicine

est dreams of yesterday's most innovative scientists.

On these pages you see examples of "high-technology" in the area of imaging, all of them in use — *today* — in The University of Iowa College of Medicine, and in University Hospitals and Clinics. None of them existed as little as a decade ago, yet they contribute around the clock to more accurate, quicker and less painful diagnoses, or to healing, or to the increase of knowledge through research — and thus to enhancement of medical education.

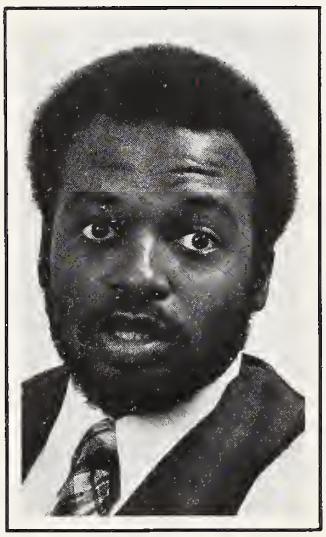




pictorial information is displayed variously to aid in analysis. It is possible also to evaluate changes that occur over time by quantitatively analyzing distribution of a radioactive tracer. LOWER RIGHT — A phase image calculated from a radioisotope ventriculogram is evaluated by U. of I. researchers Steve M. Collins, Ph.D. (left), associate professor of information engineering, and David J. Skorton, M.D., assistant professor of internal medicine. The process was developed by an interdisciplinary research team at Iowa's Cardiovascular Image Processing Laboratories. It defines the sequence of the contraction of the heart through the analysis of cardiac images using digital computer techniques. BELOW — The U. of I. is one of two U.S. sites where high computer technology is used to measure regional cerebral blood flow in a tomographic way. Patients of Antonio J. Damasio, M.D., professor of neurology, inhale radioactive xenon to measure the gas rate of washout from specific brain areas. Patients with stroke or tumors, for instance, have decreased cerebral blood flow in regions affected by disease. The images obtained with this technology allow early detection of diminished flow and permit more rapid treatment.



"Sure I'm concerned, but what can I do about health care costs?"



■ That's a question we're hearing from a lot of Iowans these days, including physicians.

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We're asking them to think twice before using the hospital emergency room as a 24-hour-a-day doctor's office. And we're emphasizing the importance of knowing what their health care program covers.

A more educated public is a first step in keeping costs down. But better communication is a two-way street.

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QUESTIONS - ANSWERS

GEORGE L. BAKER, M.D.
Iowa City, Iowa

RESIDENCY TRAINING SITES

As the number of available residency training positions declines, students are being urged "to look at more potential training sites and to develop a longer list of sites that would be acceptable," says the associate dean for student affairs and curriculum at the University of Iowa College of Medicine.

A deficiency of residency training positions is being forecast. How has this problem come about?

Primarily, the situation has been caused by the increasing number of graduates from U.S. medical schools, a figure that has gone from about 11,000 in 1974 to some 15,800 in 1982. Also, the number of U.S. graduates of foreign medical schools who wish to take residency training in the U.S. has increased from 785 to 1,348 in just the last two years. The number of alien graduates of foreign medical schools who are seeking U.S. residencies has also increased, but not as much. At the same time that applicants have been increasing, the number of first-year residency positions has leveled off and a decrease is predicted. In 1983, the number of residency positions available for U.S. citizens applying will be about one to one. That includes a number of hospitals which have programs not normally selected by U.S. graduates because of the hospitals' location, lack of support, or things of that sort.

Why are the number of residency positions declining?

While most residency programs are in primary teaching hospitals and their affiliates, many are in city and county hospitals. In depressed areas of the nation, hospital budgets are decreasing. Continued austerity could cause a significant decrease in the number of training positions available in these hospitals. Stipend cost alone for each resident is now nearly $25,000 annually. Also, long range assessment of medical needs carried out by some specialty groups have indicated a reduced need for some specialists and residency programs are being adjusted accordingly.

What measures might be taken to alleviate the shortage of residency positions?

One obvious measure is to reduce the enrollment of foreign-educated, non-citizens in beginning residencies, and to develop a rationale for training foreign nationals at advanced or fellowship levels. A second measure is to reduce the enrollment in residencies of U.S. citizens who have attended foreign, often unaccredited, medical schools. Currently, however, there is no practical way to approach this. Another possibility is to look at enrollment reductions in U.S. medical colleges. Projections are for an excess number of physicians in the future, particularly on the coasts and in some Sun Belt areas. This is not true for Iowa, however. College of Medicine data indicate that the state is still pretty far behind in numbers of physicians. A large number of physicians are nearing retirement age, and in terms of replacing family practice and other primary care physicians, Iowa is just barely keeping up with the turnover. A fourth proposal is to upgrade the quality of the 10% of the residency programs that no one now chooses. But the money required to add clinician-teachers and provide facilities is generally not available, so this possible solution would be very difficult to achieve.

What advice concerning residency training is being given to U. of I. medical students?

We are trying to get students thinking about their career plans much earlier and to become

(Please turn to page 124)

QUESTIONS/ANSWERS

(Continued from page 123)

better informed about the various specialties early in the sophomore year. Advisors who work with the juniors seek to give the students an understanding about the situation in the various specialties and urge them to consider alternative career goals. When it comes time to actually look at positions, we are encouraging them to look at more places and to leave more places in consideration when they turn in their list to the National Resident Matching Program. We also encourage specialty groups to advise students realistically about their prospects for obtaining a residency in their discipline.

What happens if we reach a point where some graduates of U.S. schools cannot arrange a residency?

Since we have not reached that point, no one knows. Currently, some students who do not get their first choice of a specialty or location will spend a year "marking time" in some other area, such as emergency room work. So, there may be some of this "backing up." But those graduates must realize that they will be competing with next year's class and they may not be selected the second time around. There are a few states where residency training is not needed to obtain a license to practice, but hospital practice privileges are based on the physician's residency training. Ninety-seven percent of all graduates now take a residency and it is almost unheard of not to do so. The other graduates go into research, graduate school, or do something different.

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Come Grow With Us

A New University of Iowa Medical Humanities Program

RICHARD M. CAPLAN, M.D.
Iowa City, Iowa

Continuing education is more than scientific application. It can go in many directions to help the physician with his knowledge, skills and attitudes. A new program is emerging at the U. of I. to address the medical humanities.

In response to long-felt needs, the University of Iowa College of Medicine has recently launched its Program in Medical Humanities. My task as director of this new effort is to identify learning opportunities that already exist, help encourage new ones, call attention to these efforts, and raise student and faculty consciousness about the topics encompassed under this name.

What *are* the medical humanities? Most people close to this subject consider them to include biomedical ethics, the history of medicine, literature and medicine, and a variety of issues that bring medicine into contact especially with theology, law, anthropology and sociology. Medicine is an intellectual discipline with a strong and ancient tradition of thoughtful scholarship. And over the centuries in various fascinating ways there have been many interconnections of medical practice and science with these other disciplines.

In the College of Medicine at The University of Iowa, our program consists particularly of components relating to biomedical ethics, medical history, and literature and medicine. I wish to reflect here on the reasons why a study of these topics is now proper to a medical curriculum and a medical career. For most people biomedical ethics, among the medical humanities, is the easiest linkage to understand, and it has often served as a sort of opening wedge in what is actually a national movement among medical schools to include some aspects of instruction in the humanities.

TECHNOLOGY IMPACT

Advances in medicine in the past decade have been stunning. No question about it — high technology is here. The kinds of scientific insights, preventive measures, surgical and pharmacologic advances in even a few *recent* years are particularly visible to those inside the medical profession whose careers, like my own, span the past three decades. But all of us are aware (just by being alive and exposed to newspapers and other media) that very impressive dilemmas bombard our society.

Just consider the recent first implantation into a human of an artificial heart, for instance, and the debate about whether the device

Dr. Caplan is associate dean for continuing medical education at The University of Iowa College of Medicine.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF APRIL 1983

should be promulgated, who should receive it, and who should pay for it. There are many questions in the arena of reproductive medicine — not just the most flamboyant debate about abortion, but such issues as test-tube babies, surrogate mothers, specialized sperm banks, and performing surgical operations on the unborn fetus, now that certain surgically correctable problems have been identified.

I recently heard a lecture entitled *"High Tech — Can It Ever Replace the Bedside Manner?"* Not long ago the city of Berkeley, California, held a referendum in which the *voters* decided to ban the use of electro-shock therapy as a treatment for certain types of psychiatric problems. How's that for an example of public involvement in the practice of medicine?

SUICIDE GUIDE

How about euthanasia, or letting die? How about informed consent of research subjects? The recent publication in France of a guide on "how to commit suicide" stirred up a huge controversy. The last question, and such matters as the intravenous injection of a lethal dose of medicine as a mechanism of capital punishment, are not derived necessarily from medical high technology but arise out of important, basic questions in public policy.

All these issues concern what is *right* to do and what *ought* to be done, and who shall decide. Such questions are by definition *ethical* questions. Physicians — indeed, everyone — feel the anguish of facing these problems, and when such questions arise in the course of caring for an individual patient, the pressure can be staggering.

BIO-MEDICAL ETHICS

Bio-medical ethics is a sub-division of philosophy — a type of applied philosophy. Some people suppose that studying ethics makes difficult ethical decisions easier to make. Not so — but such study may help in making more careful, thoughtful and informed decisions. Will it make the ultimate decisions more *suitable?* Maybe, but not necessarily. What, then, *will* it do?

For one thing, the study of ethics provides a process for analyzing problems. It's an *approach* to questions of value, to identifying all the elements that should be considered in coming to a decision with or for a patient, and to thinking clearly and using sound logical arguments. I think ethically-rooted questions and decisions can be found in practically every doctor-patient interchange. Indeed, a great many of them aren't momentous life-and-death questions at all — but they are to be found everywhere, *once one becomes sensitized to them*. Even the matter of a physician's calling adult patients by their first names has an ethical question buried in it — a question centering on implications of authority and paternalism in the relationship.

The intellectual rigor needed to define various issues and analyze them logically with defensible arguments can help, at least a little, to avoid the kind of extreme and somewhat ridiculous ethical relativism that argues that ethics boils down to a matter of personal taste — that anybody's opinion is as good or as bad as anybody else's on any topic, and there's no point in thinking or discussing an issue any further.

Another mistaken notion is that an adult can't learn or be taught *ethics* — that somehow, by the time you reach adulthood you're either *ethical* or not, and studying ethics can't make any difference. (This error arises because of the mistaken assumption that the study of an intellectual discipline, ethics, will, *per se*, assure ethical conduct.) I personally cannot be such a defeatist about the efficacy of education, even though it is rarely a panacea.

MEDICAL HISTORY

What might be the value of studying medical history? I think that knowing one's professional roots is vital to developing a sense of identity, stability and perspective, just as it is with one's personal and family roots. Our present-day medical procedures — and for that matter, the entire tradition of medicine in the United States — comprise only a recent component of the history of the healing effort throughout western civilization.

Our knowledge of such effort dates back at least 2,500 years to the time of Hippocrates in ancient Greece. Fundamental problems which faced thoughtful physicians of that era have continued to confront every succeeding generation of healers down to the present. For example: What is the nature and behavior of disease? How is disease different from illness? How are we to understand causes and effects? What approaches serve best to aid the process of diagnosis and treatment, and how do we arrive at them?

OPINION MOLDERS

We need to know how physicians have tried to answer these questions. Further, today's physicians so often serve as community leaders and molders of opinion, even though our process of medical education does little to prepare them for such roles. But since their opinions are so likely to be sought in these areas, I think physicians need to understand the relationship between their profession and the rest of society — as it is, and as it ought to be. Because so many medical matters now verge into the arena of public policy, physicians need to understand and participate constructively in that debate. That, in turn, requires preparation, to which the proper study of medical history in a context of general history can contribute greatly.

And how about literature and medicine? In that kind of study we are especially concerned about sensitivity, interpersonal communication, feelings. The medical profession and its practitioners take lots of criticism in today's society because of the charge that either individually, or collectively, physicians are not sufficiently sensitive to patients' needs and feelings.

Can one really become more sensitive in this regard by reading, interpreting, and being moved by fine literature? I certainly think so. Reading can be a magnificent way to expand one's experience vicariously, and especially when that experience is presented to us under the tutelage of masters like Shakespeare, Bernard Shaw, Tolstoy, and other writers who were superb at identifying and portraying human emotions and reactions.

If we apprentice ourselves to such keen observers, we can indeed grow more effective at gauging nuances of meaning and expression in the speech and behavior of our patients, our colleagues, and our own families. We can be aided to a clearer understanding of the full nature of pain, disability and death.

In a course like Literature and Medicine we are also interested in physicians as characters in the literature, and likewise in physician writers of great skill, such as Oliver Wendell Holmes, Anton Chekhov, Arthur Conan Doyle, William Carlos Williams, Lewis Thomas, Richard Selzer.

From whatever angle we approach it, discussion in a Literature and Medicine class inevitably leads us to investigate the nature of professionalism, or the quality of the doctor-patient relationship, or how to recognize and have practice at recognizing emotional reactions.

THE RESULT?

Will study of such subjects as biomedical ethics, medical history, and literature and medicine make either student doctors or mature practitioners into better doctors — more caring, more honest, more sensitive, more compassionate?

Not necessarily — but maybe. (That same "maybe" has to be the answer also when one is asked whether taking a course in pharmacology makes one prescribe drugs appropriately, or whether passing a course in surgery assures sound surgical judgment.)

At the very least, acquaintance with the subjects of the medical humanities can make the physician more learned and aware about his or her chosen field and its place in society. The opportunity for such inquiry will be appearing in our continuing education offerings as well as our undergraduate courses. I think that a physician's knowledge, skills, and attitudes can all be favorably influenced by this sort of study. I hope you might think so, too.

PATIENT INFORMATION

Patients need to know about the medications they take; today, they expect physicians to provide this information. Two sources of such material are (1) The AMA Patient Medication Instruction Program (PMI) which provides leaflets describing a number of the most commonly prescribed drugs or drug classes. These leaflets are excellent in their clear, concise language in presenting the purpose of the drug, how it is to be taken, and its possible side effects. Contact the offices of IMS or AMA about the availability of the PMI, and (2) Hoffman-La Roche, Inc., Nutley, N. J., as part of their medical education program provides a series of information booklets for patients. Watch for advertisements in your medical journals, and later in consumer magazines.



Iowa Children's Care Center — A Model Pediatric Environment

CHILDREN COMING to the Iowa Children's Health Care Center at University Hospitals may think they never left home. The Center moved into new facilities in the John W. Colloton Pavilion last October. It provides a health care environment designed to imitate home life as much as possible — making it easier for children (and parents) to cope with hospitalization or a clinic visit.

Throughout the Center, young patients are greeted by colorful graphics and life-size murals of animals and cartoon characters which decorate walls, rooms, doors, carpet and railings. In addition, artwork, pictures and plants grace corridors and waiting areas. A classroom also provides children with a place to do their schoolwork, and play areas offer recreational opportunities.

This child-oriented environment enhances the concept of pediatric care and encompasses the emotional, social and developmental needs of children and their families.

But even more important than providing a hospital environment in which children "feel at home," the Iowa Children's Health Care Center provides a contemporary facility which complements the specialized skills of health care professionals. The center focuses the expertise and training of more than 100 pediatricians and 250 pediatric nurses and nurse practitioners on the health care needs of more than 5,000 children inpatients and 21,000 clinic patients each year.

The new facilities in Colloton Pavilion replace outmoded pediatric areas within the 1928-vintage General Hospital, and provide the Iowa Children's Health Care Center of the Department of Pediatrics with a 38-exam room Pediatric Ambulatory Care Clinic and two inpatient floors with 88 beds dispersed among age-specific nursing units.

The Iowa Children's Health Care Center is a model health care environment for Iowa's most precious resource — its children.

AT WORK AND PLAY — In photo above, Jerold Woodhead, M.D., assistant professor, Department of Pediatrics, works in one of 38 exam rooms in the new clinic. Top left on adjacent page shows popular cartoon characters offering a warm touch. Patient care areas form triangular pods of 6 to 10 beds around a nursing substation. Top right photo shows railed-in play area in the Pediatric Ambulatory Care Clinic where good use is made of waiting time. Adjacent lower picture depicts computerized technology in action with respiratory therapists monitoring sleep patterns of infants susceptible to Sudden Infant Death Syndrome.




reception



Putting Practice Management Into the Learning Process

PAUL S. WILLIAMSON, M.D.
Iowa City, Iowa

The business side of medical practice is getting a new emphasis at The University of Iowa. The year-long seminar series covers practice locations, medical records, bookkeeping, etc. Residents receive a new and important dimension in the learning process.

SEVERAL THINGS have changed in recent years for those just starting out in medical practice. The number of opportunities for getting that "ideal" location has decreased. The competition is fierce — for patients, for hospital privileges, and just for surviving the economic recession. Interest rates and prices on new equipment have both skyrocketed. And now, there is competition from newly organized Health Maintenance Organizations, Independent Practice Associations and, most recently, Preferred Provider's Organizations.

If careful selection of a practice setting and attention to business details were desirable before, they are absolutely essential in today's marketplace.

Graduating residents are well prepared to handle the medical problems they will face in practice. Yet an ever larger proportion of newly graduated physicians are looking for salaried jobs — in emergency rooms, in government, in industrial and even military positions. Could it be that they feel insecure when they finally have to face the business aspects of medical practice?

The business side of practice has traditionally not been given a place in the medical school curriculum. In fact, one of the most frequent residency deficiencies cited by recent residency graduates is practice management training.[1] This has created a ready-made market for a variety of entrepeneurs to present expensive 2-day "management workshops" for physicians with business problems. Physicians themselves do not ordinarily have any input into the curriculum of these programs.

A NEW COURSE

Special emphasis is currently being placed at The University of Iowa on the business aspects of medical practice with the recent addition of a new course, called the "Office Practice Management Seminar." Its curriculum is outlined in Table 1.

Every resident, fellow and dental surgeon in the last year of postgraduate training is eligible to sign up for this elective course. This year 87 physicians from almost all departments of the medical center are enrolled. The seminar meets twice a month from August through April of the resident's last year in training. Each topic is scheduled about the time the young physician

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TABLE 1
SCHEDULE OF TOPICS FOR THE PRACTICE MANAGEMENT COURSE

Topic	*Instructor*
1. Selecting o proctice locotion	Network coordinators
2. Spoce plonning ond buildings	Architect
3. Finoncing	Banker
4. Bookkeeping ond toxes	CPA
5. Legol considerotions ond controcts	Attorney
6. Medicol records	Attorney
7. Time monogement	Physician
8. Computer opplicotions	Physicion
9. Investments ond retirement	Finonciol plonner
10. Business office & medicol equipment	Solesmon
11. Personnel, Port I & II	Personnel monoger
12. Third porties	Provider reps
13. Billing ond collections	Credit bureau monoger
14. Proctice monogers	A consultont
15. Personol ond business insuronce	Solesmon
16. Potient educotion	Physicion
17. A review of how it oll reolly works	Returning graduote residents

needs to be planning that particular aspect of his or her future practice. The material is equally applicable to city or rural practice, to joining or forming a group, or to going solo.

Special support is available at The University of Iowa for locating and evaluating the best match between graduating residents and communities who need a doctor. Two "network coordinators" from the Office of Community-Based Programs collect and abstract information on available practice opportunities for the residents. The details on how this consultation service operates are presented in the first session of the seminar. A lengthy checklist of personal and career goals is used to cover almost every possible consideration. The coordinators then continue to work with individual residents who request their services throughout the year until the resident is established in his or her new practice.

GUEST SPEAKERS

The majority of lectures are given by guest speakers, each of whom is an expert in his/her particular field and practices it daily in the local business community. A list of their titles appears opposite their topic in Table 1. Meeting these professionals gives the residents some exposure to types of business consultants they will need out in practice. To keep the focus on the needs of a new physician starting a new practice, the speakers are asked to answer two questions: "What 10 things do new physicians need to know to run an efficient office?" and "What are the biggest management mistakes you see physicians making?"

Motivation among the residents for attending "just another conference" can lag, until the architect brings in medical office models to illustrate design problems. A loan officer seems like a person to whom one should apologize for being so poor, until the residents see for themselves how eager he is to lend them money at 18% interest. The fine print in a partnership contract looks pretty boring, until the lawyer illustrates problems with contract cases he has defended in court.

COLLECTING A NOTEBOOK

About a week before each seminar, the course coordinator publishes a set of notes on the upcoming topic. These include some of the latest medical business information, a few personal opinions from the coordinator's past experience, and a collection of 5 to 10 reprints of the best recent articles on the upcoming topic. These 16 units are collected into a 3-inch loose-leaf ring binder for notetaking during the seminar, for later reference, and for ripping and replacing through the years of medical practice as updates are needed. Some practice management programs elsewhere require each resident to develop his or her own notebook;[2] however, giving a resident the necessary resource materials saves more time for developing medical skills.

PRACTICUM EXPERIENCE

As a part of this training, the Family Practice Residency Program at Iowa City rotates its residents through four medical office positions for a half-day each. This is intended to give them some "on-the-job" experience. This approach has been described by John Aluise while at the Akron program.[3] There is nothing like sitting at the reception desk to gain a new sense of appreciation for your receptionist, and to end all criticism of that person. It takes only a few minutes of frantic phone calls on Monday morning, wrecking the day's appointment schedule, to convince a resident how valuable a good receptionist is to a medical practice. Four hours spent typing insurance forms gives the residents new insights into the importance of support staff. The residents also spend some time as medical assistants putting patients in

(Please turn to page 134)

rooms and reviewing the billing and personnel problems of a practice administrator.

SUMMARY

Family Practice Residency Guidelines prescribe a minimum of 60 hours of practice management training spread over the three years of residency training.[4] At The University of Iowa's Iowa City program, residents and fellows of all medical specialties are now planning the business aspects of their future practices in a year-long seminar offered during the last 12 months of their postgraduate training. The seminar is not a comprehensive business course, but provides basics for each area they will have to manage or supervise, if they choose to go into private practice.

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Program Focuses on Iowa Health Management Issues

The Center for Health Services Research is an arm of the Graduate Program in Hospital and Health Administration at The University of Iowa. Its current work is heading in a multiplicity of directions. Summarized here are various projects being undertaken in an effort to better understand health care delivery in Iowa.

THERE HAS BEEN an explosion in medical and health care knowledge and technology in recent decades. This has been coupled with slower growth and even retrenchment in the economy. Together, these factors have brought changes in the management and organization of hospitals and health institutions. Voluntary multi-hospital systems have emerged. Investor-owned hospital and health care conglomerates, long-term care chains, alternate delivery systems, as well as innovations in health financing and reimbursement have appeared. All of these have produced unprecedented challenges and problems for managers and health professionals. The complexity of the system underscores the continued need for a cadre of creative leaders who will manage health organizations of the future, and who will seek sound approaches in health management education.

Thirty-three years ago The University of Iowa launched its Graduate Program in Hospital and Health Administration, to provide just such leaders and educators. Since 1950, 515 men and women have earned the master's degree in the program and another 70 have earned the doctorate. These professionals now administer hospitals and clinics, long-term care institutions, ambulatory care facilities, planning agencies and related health organizations. Many graduates of the program are in key positions throughout the nation.

Seventy-three individuals are currently enrolled in the U. of I. program, pursuing such courses as hospital and health management, health law, health economics, financial management, organizational psychology, medical care programs, ambulatory care, health policy, medical sociology, quantitative applications in the health field, health systems management and policy, research methods and statistics. Several students enroll each year through a unique early-admissions program inaugurated with the help of the W. K. Kellogg Foundation of Battle Creek, Michigan.

The research arm of the Graduate Program in Hospital and Health Administration is the University Center for Health Services Research. It draws upon the interests and expertise of faculty and associates from 8 of the University's 10 colleges: Medicine, Dentistry, Nursing, Pharmacy, Business Administration, Education, Engineering and Liberal Arts, as well as University Hospitals and Clinics.

Currently funded studies reflect the involvement of the Center in both basic and applied research, including *rural hospital case mix, hospital utilization, health of the rural elderly, health care for the medically indigent, maternal and child health services, hospital employee turnover, capitation reimbursement for pharmacy services,* and *retirement decision making.*

IOWA HOSPITAL CASE MIX

Funded by the Health Care Financing Administration in 1980, the study is assessing the implications of the application of Diagnostic Related Groupings (DRG's) as the foundation for reimbursement of hospitals in rural states such as Iowa. Data for nearly 370,000 patient discharges from 91 Iowa hospitals form the basis for the analysis. The case mix, length of stay, and costs of providing care in these hos-

pitals are being scrutinized to determine the applicability of DRG's to small rural hospitals. Early findings indicate that the DRG's are not homogeneous with respect to length of stay. Other assumptions of DRG-based systems, including similarity of case mix and similar costs within specific DRG's, will also be examined. In addition, the study group will examine the financial impact of DRG-based reimbursement on small rural hospitals.

IOWA HOSPITAL UTILIZATION

The goal of this study is to identify factors which influence hospital utilization in Iowa and to evaluate various policy options which might encourage cost effective hospital use. Eight areas within Iowa with unusually high and low utilization patterns are being selected. Study activities for each location will include surveys of residents to determine use patterns, interviews with physicians to examine factors which influence decisions regarding hospitalization, and analysis of recent hospital discharge abstracts for area patients. The project was funded in 1982 by the Health Policy Corporation of Iowa.

HEALTH OF THE RURAL ELDERLY

This 5-year longitudinal study investigates the health and well-being of elderly persons in 2 rural Iowa counties and is funded by the National Institute on Aging. It is part of a national epidemiologic research project, with Yale and Harvard Universities conducting comparable analyses on the urban elderly in New Haven and East Boston. The Iowa phase of the study is being conducted jointly with the Department of Preventive Medicine and Environmental Health in the U of I College of Medicine. It intends to document the prevalence and incidence of health conditions among the elderly. Also to be assessed is a wide range of suspected causes and correlations of health problems and functional disabilities common in the elderly.

In 1981, a comprehensive baseline survey was completed for 4,275 individuals. The first of three yearly follow-up surveys on major health events began in December, 1981. The population will be followed through surveillance of hospitalization, institutionalizations and death. Nine focused substudies dealing with such problems as osteoporosis, recovery after hospitalization, drug use, skin dryness, constipation and diarrhea, depression and dementia, and sleep disorders are being conducted jointly with the surveys.

POLK COUNTY MEDICALLY INDIGENT HEALTH PLANNING STUDY

Funded by Polk County Health Services and Broadlawns Medical Center in 1981, the study examines the current system for providing health care to the medically indigent in Polk County. The initial phase has identified the study population and provides a description and evaluation of critical aspects of their health care system. Preliminary findings indicate the existence of barriers to access and continuity of care for low income uninsured groups, low income employed and elderly persons with insurance, and insured individuals with high medical expenses, all of whom constitute the medically indigent. Review of alternative approaches to the delivery of health care for these groups, recommendations for change and strategies for implementation will be the focus of the remaining phases of the study.

IOWA MATERNAL AND CHILD HEALTH STUDY

With support from the Commonwealth Fund, the study will formulate a statewide plan for the cost-effective delivery of maternal and child health services in Iowa that could serve as a model for other states. A major goal is to develop improved approaches to coordination and integration of maternal and child health services at the state and local levels. This project is the outgrowth of a study, begun in 1982, of the health and health-related needs of Iowa's approximately 700,000 women in their child-bearing years and over 900,000 children, especially those of low income. The entire study will include an inventory of available resources, an analysis of utilization patterns of those resources and a determination of unmet needs. In addition, problems in the organization, financing, and delivery of services will be identified. Assisting in the planning process, through a steering committee structure, are the State Departments of Health, Social Services, and Public Instruction, the Iowa Specialized Child Health Services, and the University of Iowa Hospitals and Clinics.

HOSPITAL EMPLOYEE TURNOVER

An investigation of hospital employee turnover and absenteeism is in the final year of a

(Please turn to page 137)

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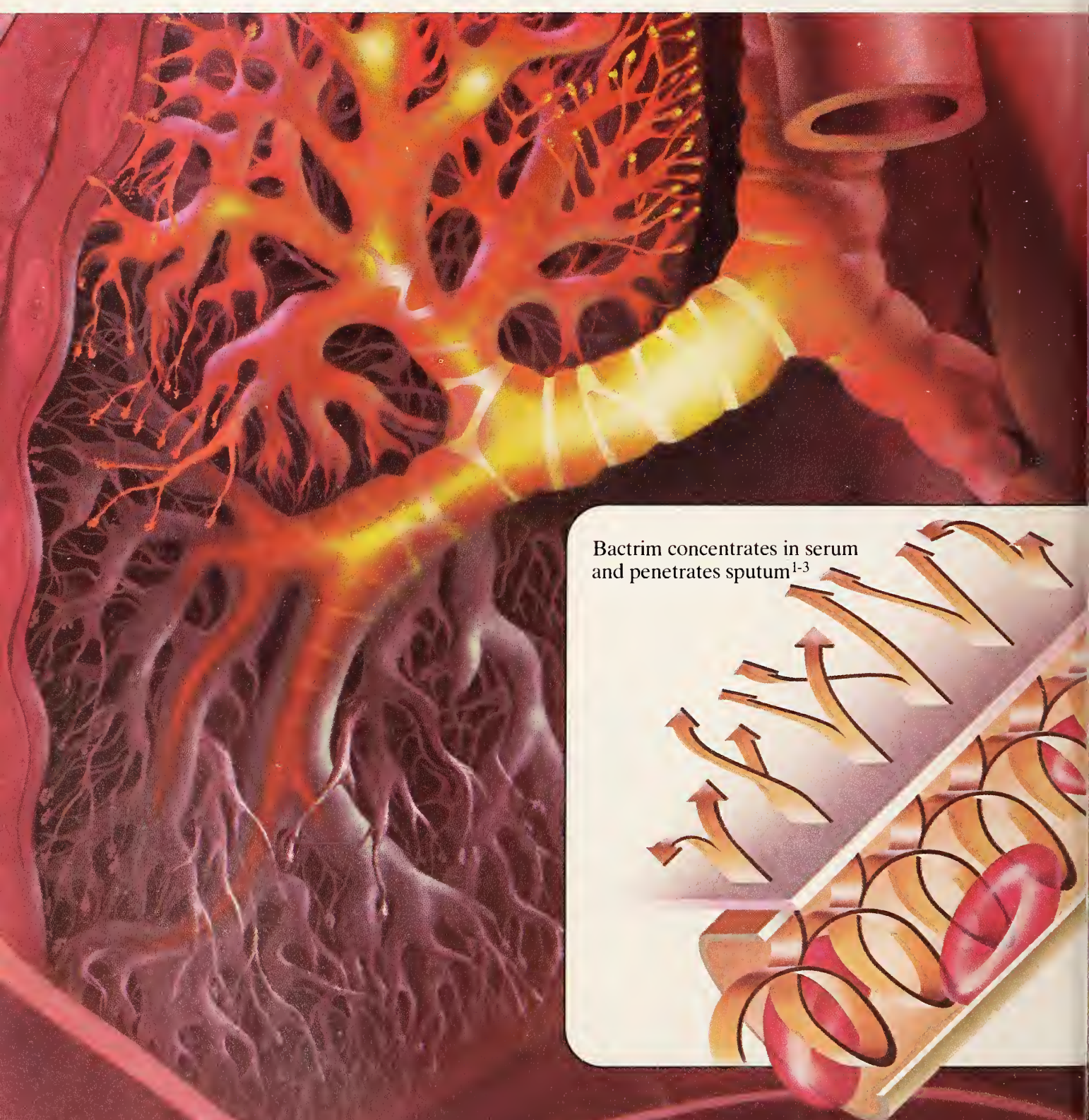
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Bactrim™ attacks the
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in acute exacerbations



Bactrim concentrates in serum and penetrates sputum[1-3]

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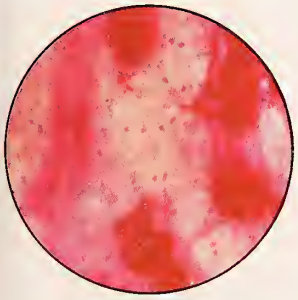
major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

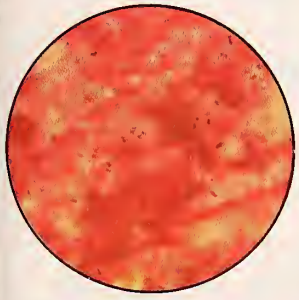
In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

tacks *H. influenzae*—even ampicillin-resistant strains



attacks *S. pneumoniae*



Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

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Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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3-year study funded by the Department of Health and Human Services. The objective of this project is to develop a set of recommendations that will enable hospitals to contain costs by reducing employee turnover and absenteeism. Longitudinal data on all employees from 5 voluntary general hospitals are being evaluated. Preliminary findings indicate significant differences in the factors influencing turnover for major occupational groups, such as nurses, therapists, managers, clerical workers, and service workers, and for short- and long-term employees.

IOWA CAPITATION DRUG EXPERIMENT

This experimental study is funded by the National Center for Health Services Research. It is comparing 2 approaches to reimbursement of pharmacists' drug costs for Medicaid recipients. Sixty-four Iowa counties are included in a before/after, experimental/control design of capitation and fee-for-service methods of reimbursement. Eighty per cent of projected expenditures were paid to pharmacists in the experimental group in advance, based on projected utilization by Medicaid clients who selected them as their providers. Pharmacists who participated in the experiment were guaranteed that their gross income would remain at least equal to the current fee-for-service payment system.

Preliminary analyses indicate that total payments to pharmacists averaged 9% higher under capitation. Drug ingredient costs, however, were 3% lower than fee-for-service reimbursement. The findings are probably influenced by several factors: pharmacists not being at financial risk under the program, the higher-than-intended capitation rates, and the high number of emergency claims. No significant differences in either drug use levels, pharmacist dispensing behavior, or quality of drug therapy were observed between capitation and fee-for-service remuneration. Significant refinement of the capitation model may be necessary before this financing innovation is applied elsewhere.

RETIREMENT MIGRATION DECISIONS

This project is supported by the National Institute on Aging. It is investigating factors which influence retirement decisions. A sample of 327 Iowans in the pre-retirement age group (55-64) completed a written questionnaire rating their interest in moving after retirement to a variety of hypothetical locations described by different combinations of interest factors. Distance to comprehensive health care facilities has emerged as one of the most important factors influencing their decisions. Potential migration sites decreased in attractiveness as distance to health care facilities increased. Climate, distance to close relatives, and a neighborhood population consisting of a mixture of young and old families are other factors positively influencing relocation choices.

These studies represent examples of what is expected to be an expanding knowledge base for addressing significant health policy issues of relevance to Iowa, the region and the nation. In many respects, the State of Iowa constitutes an ideal natural laboratory in which to conduct applied health services research. Like many other areas of the country, Iowa includes a few metropolitan areas, surrounded by predominantly agricultural regions interspersed with centers of light to heavy industry. It is experiencing escalation in health care costs similar to other states, although with a somewhat higher than usual pattern of hospital utilization and a lower use of alternative health care resources.

Unlike many other areas, Iowa has the resources and willingness to address these problems. Commitment and involvement of professional and community leadership, supported by reliable information systems and analytic capacity, should facilitate the systematic review of policy options and the successful resolution of the difficult questions now confronting policymakers. This same set of circumstances obviously provides a unique opportunity for educating health care managers and conducting health services research.

Samuel Levey, Ph.D., is professor and head of the Graduate Program in Hospital and Health Administration and the Center for Health Services Research, College of Medicine and Graduate College, The University of Iowa. Linda K. Demlo, Ph.D., is associate professor in the Graduate Program in Hospital and Health Administration, and director of the Center for Health Services Research.

Appreciation to Physician Preceptors

THE UNIVERSITY OF IOWA College of Medicine extends sincere appreciation to the 117 Iowa physicians who served last year (academic year 1981-82) as preceptors for third- and fourth-year medical students and for students in the Physician Assistant Program. These preceptorships are an important element in the College's outreach effort, and they permit students to observe first-hand a medical practice away from the academic setting.

1981-82 PRECEPTORS FOR THIRD YEAR PRECEPTORSHIP

Served Students from Class of 1983

Algana Kenton K. Mass, M.D. (3)
Altoona Melva D. Newcomb, D.O. (2)
Ankeny Rodney R. Corlson, M.D. (3)
Boone John F. Murphy, M.D. (5), Woyne E. Rause, M.D. (3)
Corrall Homer Skinner, M.D. (1)
Cedar Falls Rabert N. Bremner, M.D. (1), Philip E. Rohrbaugh, M.D. (1), Jomes R. Yaung, M.D. (1)
Cedar Ropids Percy Harris, M.D. (1), Richard H. Rawe, M.D. (3), Jomes F. Stiles, M.D. (6), Rabert L. Swaney, M.D. (3), Mark J. Tyler, M.D. (4)
Centerville James B. McCanville, M.D. (3), Melvin G. Parks, M.D. (1)
Clinton George L. York, M.D. (3)
Council Bluffs James T. Mulry, M.D. (1)

Crestan Peter R. Marcellus, M.D. (2)
Dovenpart Marvin F. Ohsonn, M.D. (2)
Decarah Drew Pellett, M.D. (5), Max Quaas, M.D. (2)
Denisan Romaine L. Bendixen, M.D. (1)
Des Maines James R. Bell, M.D. (2), James L. Blessman, M.D. (2), Charles R. Petersan, M.D. (1)
Dyersville Anthany Sweeney, M.D. (3)
Elkoder Kenneth E. Zichal, M.D. (1)
Emmetsburg Carlyle C. Maare, M.D. (2), Gerald J. Wieneke, M.D. (1)
Estherville Rabert S. Hranoc, M.D. (1)
Fairfield James H. Dunlevy, M.D. (2)
Grinnell Rabert M. Carney, M.D. (3)
Guttenberg Eugene M. Dawney, M.D. (3), Rabert J. Merrick, M.D. (3)
Harlan Rabert E. Danlin, M.D. (1)
Indianala Danald G. Flary, M.D. (1)
Iowa City Victar G. Edwards, M.D. (2), Mitchell C. Ruffcarn, M.D. (4)
Iawa Falls Francis L. Pisney, M.D. (2)
Kalana Dwight G. Sattler, M.D. (5)
Le Mars Daryl E. Daarenbas, M.D. (1), James E. Pawell, M.D. (1), Gerald L. Van Es, M.D. (1)

Figures in parentheses show number of students physicians had during year.

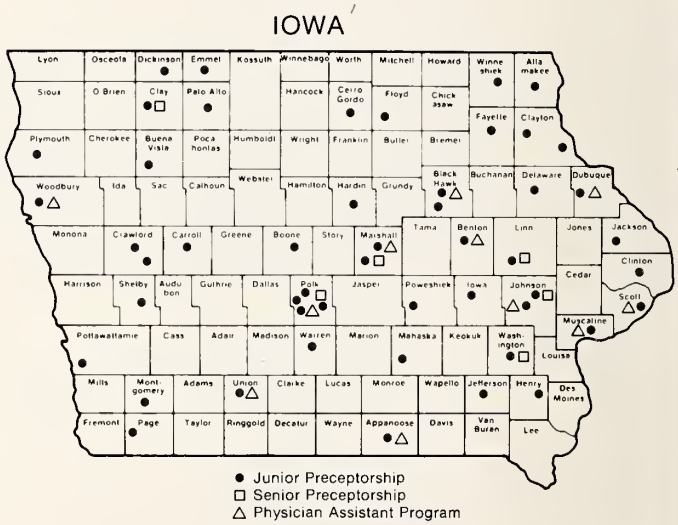


Figure 1 shows the community locations of physicians who served as preceptors for the three groups of students.

Manchester Mary Ann Arends, M.D. (2), Paul A. Seorles, D.O. (4), Jahn E. Tyrrell, M.D. (3)
Manillo Jahn M. Hennessey, M.D. (1)
Maquoketo Jahn A. Braman, M.D. (2), Clifford L. Rask, M.D. (3)
Marengo Dan Hagan, M.D. (3)
Marshalltown David L. Thamas, M.D. (1), Miltan J. Van Gundy, M.D. (1)
Masan City Jan R. Yankey, M.D. (1)
Mt. Vernan Kim B. Brandt, M.D. (3)
Muscatine Farrest D. Dean, M.D. (2), Steven S. Kragh, M.D. (1), Dean McGinty, M.D. (2), Patrick Tranmer, M.D. (2)
Oelwein R. J. Jaggard, M.D. (1)
Ogden Enfred E. Linder, M.D. (2)
Orange City Roy J. Hassebraek, M.D. (2)

Osceola James D. Kimball, M.D. (1)
Oskalaasa R. Michael Callisan, M.D. (3)
Red Oak William G. Artherhalt, D.O. (1)
Rackford Russell G. Barrett, M.D. (2)
Shenandaah Kenneth J. Gee, M.D. (1)
Sioux City Jahn H. Raberts, M.D. (2)
Salan Bruce R. Van Hauweling, M.D. (2)
Spencer Gearge F. Fieselmann, M.D. (1), Jahn E. Kelly, M.D. (3)
Spirit Lake Danald F. Radawig, M.D. (1)
State Center Larry R. Beaty, M.D. (2)
Starm Lake Timathy K. Daniels, M.D. (3), Gary C. Olsan, M.D. (1)
Vintan Sherman L. Anthany, M.D. (3)
Waterlaa Karl Jauch, M.D. (1), Kent R. Opheim, M.D. (1)
Waukan Bill R. Withers, M.D. (1)
West Unian Larry H. Baeke, M.D. (2), Susan Urbatsch, M.D. (1)
Winfield Billy R. Nardyke, M.D. (2)

1981-82 PRECEPTORS FOR FOURTH YEAR ELECTIVE PRECEPTORSHIP

Served Students fram Class af 1982

Ankeny Radney R. Carlson, M.D. (1)
Cedar Rapids Rabert Swaney, M.D. (1), Mark Tyler, M.D. (1)
Kalana Dwight Sattler, M.D. (1)
Salan Bruce Van Hauweling, M.D. (1)
Spencer Jahn E. Kelly, M.D. (2)
State Center Larry Beaty, M.D. (1)

1981-82 PHYSICIAN ASSISTANT PROGRAM PRECEPTORS

Centerville Anthany Owca, M.D.
Crestan Kirpal Singh, M.D.
Davenpart Gardan Cherwitz, M.D., Eugene Jahnsan, M.D.
Des Maines Michael Abrams, M.D., Oscar G. Barillas, M.D., Albert Bastram, M.D., Gertrude Daughten, M.D., Lester R. Dragstedt, M.D., David Kaung, M.D., Alda Knight, M.D., Thamas Lucas, M.D., Danald Lulu, M.D., Carl Petersan, M.D., Greg Rahs, M.D., Rizwan Shah, M.D., Javad Yans, M.D.
Dubuque Allen Harves, M.D., Paul Laube, M.D., Peter R. Whitis, M.D.
Iawa City Albert Cram, M.D., Gerald DiBona, M.D., Douglas Laube, M.D., Henry A. Nasrallah, M.D., Fred D. Staab, M.D., Thamas Vargish, M.D.
Marshalltawn Axel Lund, M.D.
Muscatine Amir Arbisser, M.D., William Catalana, M.D., Farrest Dean, M.D., G. P. Kealey, M.D., David Kundel, M.D., Richard Kundel, M.D., Mark Odell, M.D.
Siaux City Gerald McGawan, M.D.
Vintan Sherman L. Anthany, M.D.
Waterlaa Jan Danlea, Administratar, Rabert Dawnie, M.D., Raland Enas, Administratar, Dale Phelps, M.D., Rabert Sauer, M.D., Robert Singer, M.D., Luke Tan, M.D., Charles A. Waterbury, M.D.

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ZIP _____ PHONE (AC) _____
SCHOOL ATTENDED/ATTENDING _____
GRADUATION DATE _____ DEGREE _____
SPECIALTY AREA OF INTEREST _____



COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

ALL THE VICTORIES ARE NOT ON THE GRIDIRON

IT IS EVIDENT the press gives more attention to the state of athletic endeavors at the U. of I. than to other areas of excellence. No doubt the victories by the Hawks provide statewide pride (Did I, a graduate of the University of *Nebraska*, say that?); yet the accomplishments at the College of Medicine are as noteworthy. This issue of the JOURNAL is our effort to extoll the year's record.

It has been our custom each spring to devote an issue of the JOURNAL to the U. of I. College of Medicine. So it is that this issue brings to the reader reports on what is new, what has been done, as well as plans for the future in the various departments of the College.

The task of developing a practice and entering the business world of medicine is difficult for many; easy for others; depending on the circumstances. Advice to the graduating student and resident may be diverse. Perhaps the advice of Dr. Paul S. Williamson will help the young physician.

The humanities have a very important place in the arena of medicine. Our work involves living. The living ones are a part of the arts, of philosophy, as well as the romance of language skills. Our associate, Dr. Richard Caplan, has inaugurated a course on the concerns of the humanities and medicine. Read his views and anticipated goals of this exciting program.

Research is a very healthy activity at the College. One area is the field of health management. The well person must be a witness to himself. A healthy life is a good life. Read about programs in this endeavor. Then, when health fails, medicine must be able to utilize highly technical skills providing the best in diagnosis and management of disease and infirmity. "High-tech" research is present at the College, and an update on this subject appears in this issue.

We salute our colleagues at the College of Medicine, and in so doing are pleased to present to our readers these reports focusing on the interrelationship between physicians throughout our state and their colleagues at the academic level. — M.E.A.

GOING, GOING (HOPEFULLY), GONE

IMMUNIZATION against diseases which, in years past, were a scourge is a success. Several years ago we discontinued the routine use of smallpox vaccination. The World Health Organization, as well as the U. S. Center for Disease Control, ascertained smallpox had been eradicated; no longer a public health problem. There were some doubts about the decision to discontinue small pox vaccination. However, time has proven, thus far, the banishment of that dread disease is complete.

Measles now appears to be on the way out, at least in the United States. A recent CDC report indicates only 1,351 cases of measles were reported in the United States through the first 40 weeks of 1982; a 50% decrease over the previous year which showed a record low in incidence. It is anticipated by the end of 1983 measles will be a disease of the past in our country. Efforts by the World Health Organization, similar to its attack on smallpox, can extend this eradication worldwide.

The task is not complete. There are numerous older individuals, teenagers and younger adults, who received inadequate protection with the earlier vaccines and the protocol of immunization. Those who received their im-

munization prior to 1 year of age have uncertain protection. Occasionally, we hear of a small outbreak of the disease in a college setting. The same applies to the rubella immunization. It is recommended by many authorities a repeat rubella immunization be given to preadolescent children, and this be given as measles-rubella vaccine in order to provide greater assurance of adequate protection. It would be tragic to have a resurgence of these diseases because of ignoring this knowledge.

Pertussis (whooping cough) is another problem. There are some well-meaning individuals who espouse the concept that pertussis vaccine is dangerous and should be eliminated. The arguments regarding vaccine reactions against the ravages of the disease go on and on. The major concern is to consider calculated risks, one against the other, and the judicious consideration of the state of the child's health when the vaccines are given. If the child has a history that precludes the use of a given vaccine, or is not well at the time of immunization, problems certainly may ensue. Infants and children should be examined prior to immunization injections to rule out the presence of an illness; at the same time a history should be taken to determine the possibility of extenuating circumstances which may alter the timing or actual use of the specific vaccine. Personal prejudices and unsubstantiated lore has no place in the total program.

Laws which exist in many states, as in Iowa, require children of 4 to 6 years of age to be immunized for tetanus, pertussis, diphtheria, poliomyelitis, measles and rubella (mumps, optional). This type of law benefits all, and is a great step toward the total eradication of these diseases. Any rational-thinking person who has witnessed a child die of tetanus, pertussis or poliomyelitis could not develop any serious argument against immunizations. The devastation measles has wrought in years past cannot be forgotten; nor can the effects upon an unborn infant by maternal rubella. As we enter spring and summer, evaluate the records of the patients who enter your office. Are the immunizations complete and up-to-date? Let us work together to close the books on these diseases which can be of historical interest in the near future. — M.E.A.

CLARKSON MEDICAL LECTURE SERIES

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8:20 A.M.	Welcome and Opening Comments
8:30 A.M.	Small Cell Cancer of the Lung
9:05 A.M.	Advances in Childhood Malignancies
9:45 A.M.	Coffee Break
10:10 A.M.	Adjuvant Chemotherapy for Breast Cancer
10:40 A.M.	Radiation therapy for the Nonradiotherapist: Fact or Fiction
11:30 A.M.	Questions
11:45 A.M.	Break
12:00 P.M.	Grand Rounds – Infections in Immunocompromised Hosts
1:00 P.M.	Break
1:15 P.M.	Advanced Cancer Management at Clarkson Hospital: HOCC, Hospice, Hickman Panel Discussion
1:50 P.M.	Clarkson Bone Marrow Transplant Program: An Acute Leukemia Therapy
2:30 P.M.	Monoclonal antibodies: The Fourth Wave?
3:15 P.M.	Coffee Break
3:40 P.M.	Malignant Lymphomas: A Panel Discussion on Classification, Diagnosis, and Therapy
4:40 P.M.	Questions
5:00 P.M.	Adjournment

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Over a five-year period, ibuprofen was administered to 64 patients with known peptic ulceration and 42 with known gastric intolerance to other antiarthritis drugs.

Twenty-six patients remained in treatment, 23 left treatment following remission, and 35 dropped out for reasons unrelated to side effects. In this specially selected group of GI-intolerant patients, only 13 (12.3%) discontinued ibuprofen because of GI intolerance.

"Any drug used in the control of the symptoms of the chronic arthritis must be tolerated for long periods without undue gastric discomfort...From this study it appears that ibuprofen is eminently suitable."[8]

Peptic ulceration and GI bleeding, sometimes severe, have been reported. Rufen® should be given under close supervision to patients with a history of upper GI tract disease.

References: 1. Royer GL, Jr, Moxley TE, Hearron MS, et al: *J Int Med Res* 3:158-171, 1975. 2. Royer, GL, Jr, Moxley TE, Hearron MS, et al: *Curr Therap Res* 17:234-248, 1975. 3. Brackertz B, Busson M: *Brit J Clin Pract* 32:77-80, 1978. 4. Tausch J, Fasching U: *Brit J Clin Pract: A symposium supplement, IXTH European Congress of Rheumatology*, Wiesbaden, Germany, Sept 2-8, 1979, pp 53-61. 5. Lanza FL, Royer GL, Jr, Nelson RS et al: *Dig Dis & Sci* 24:823-828, 1979. 6. Pavelka K, Susta A, Vojtisek A et al: *Rheumatol and Rehab* 12:68-73, 1973. 7. Tretenhahn W: *Brit J Clin Pract: A symposium supplement, IXTH European Congress of Rheumatology*, Wiesbaden, Germany, Sept 2-8, 1979, pp 45-52. 8. Cardoe N: Curr Med Res & Opinion 3:518-520, 1975.

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INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

Relief of mild to moderate pain. Treatment of primary dysmenorrhea.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

ORUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

AOVERSE REACTIONS: Incidence greater than 1%. Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS). *Incidence 3% to 9%.

Incidence less than 1 in 100. Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses:* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

Causal relationship unknown. Gastrointestinal: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia. Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

OVEROOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

OOSAGE AND AOMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Oysmenorrhea: 400 mg every 4 hours as necessary.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

CAUTION: Federal law prohibits dispensing without prescription.

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THINGS YOU SHOULD KNOW

HOSPITALIZATION DOWN

At a March 16 Blue Cross/Blue Shield press conference, Iowans were advised of a sharp reduction in hospitalization. The rate was reported as having dropped 11.8% between 1980 and 1982. In 1982 an average group of 1,000 Blue Cross subscribers spent 774 days in the hospital; this is compared with 878 in 1980. It is still 7.2% ahead of the national hospitalization average. BC/BS President Gene Sibery praised the cooperation of physicians, hospitals and insurers in dealing with utilization. While below national averages, the Iowa costs per hospital day have been rising at a faster clip.

NAMED TO BME

Three Iowa physicians have been named to initial 3-year terms on the State Board of Medical Examiners. They are William R. Bliss, M.D., Ames; Dorothy J. Gildea, M.D., Davenport, and Hormoz Rassekh, M.D., Council Bluffs. They succeed Jack L. Dodd, M.D., Ames; Alexander Ervanian, M.D., Des Moines and Rosalie Neligh, M.D., Council Bluffs. The appointments must be confirmed by the Iowa Senate.

FINANCIAL PLANNING

A second IMS Financial Planning Workshop for interested member physicians is planned for Wednesday, May 11, at Society headquarters. Several individuals with strong credentials in different investment areas will comprise the workshop faculty. Attendance will be limited to about 75; $25 registration fee will be charged. Contact IMS headquarters for more info.

HOUSE HANDBOOK SENT

Regular and alternate delegates to the 1983 IMS House of Delegates have been mailed the annual handbook containing resolutions and committee reports. It is hoped this material will be reviewed by recipients prior to the April 30/May 1 meeting of the House.

RESOLUTIONS INCREASE

The number of resolutions to be considered by the 1983 House of Delegates stands at eight as this is prepared. Prospects appear good that several more petitions will be received. As usual, the topics cover a broad range of medical interest and concern.

1983-88 STATE HEALTH PLAN

Acting in accord with federal mandate, the State Department of Health and the Statewide Health Coordinating Council have issued the Preliminary 1983-88 State Health Plan. It is offered "to Iowa's people as a guide to current and future actions to improve our health and health care." An April 25 public hearing is set by the SHCC to receive comments on the plan. Copies of the plan may be requested from the SDH Office of Health Planning.

FALL TRAVEL IDEA

A Danube River Adventure is available to IMS members and their families from October 12 to 26. The cruise from Vienna to Istanbul involves seven different countries. Full info is available from Society headquarters.

DES MOINES PPO

Mid-Iowa Medical Associates is a new entity coming into the Des Moines health care marketplace. The M-IMA program is Iowa's first preferred provider organization (PPO). The PPO began a media effort in March to attract corporate interest in exploring a negotiated health care arrangement. M-IMA executive Jim Kenworthy assesses physician interest as positive; the program is centered about Iowa Methodist Medical Center.

PREADMISSION POLICY

A preadmission certification program, adopted by the board of the Iowa Foundation for Medical Care recently, is called a problem-based one. Delegated hospitals will undertake their own PAC programs with assistance from and monitoring by the IFMC.

BLUES' SURVEY

Blue Cross/Blue Shield is planning a survey of providers, including physicians, to measure the use of and interest in computer-generated or paperless claims. An additional inquiry will be made about interest in the AMA telenet medical information service.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

ADVERSE DRUG REACTIONS IN THE NERVOUS SYSTEM

In the last several decades, effective pharmacotherapy for many disease states has emerged. However, associated with effective therapy, a substantial number of significant and serious adverse effects have been described. In this brief review, we will focus on several important drug-induced neurological disorders. We have described several important adverse reactions, but have made no attempt to be comprehensive. The reader should look to the references for more complete discussions.

REPORT OF A CASE

The patient, a distressed 19-year-old college student, entered the emergency room but was unable to provide a history. On physical examination, the patient was sitting up on the side of the bed but could not speak coherently. His head was twisted to the right; his tongue was protruding from his mouth and was bleeding. The patient's neck was rigid and could not be readily moved to the midline. The rest of his physical examination was within normal limits.

The patient's laboratory tests were all within normal limits.

An initial diagnosis of lockjaw (tetanus) was entertained. However, a consultant suggested 50 mg of intravenous diphenhydramine. This therapy was given with resolution of the patient's signs and symptoms within 10 minutes. After resolution of the symptoms, the patient stated he had ingested a single 5 mg Compazine® tablet approximately one hour before he developed the acute dystonic reaction.

DISTURBANCES OF CONSCIOUSNESS

Seizures, syncope, and stroke can be caused by drugs. Excessive doses of insulin (causing hypoglycemia), lidocaine, and penicillins (especially in patients with renal failure) can cause serious seizures. Phenothiazines and tricyclic antidepressants may cause or precipitate seizures not only in those who have epilepsy but in apparently healthy people. Some of the newer antidepressant medications including maprotiline have induced seizures. Drugs used in the therapy of tuberculosis, including cycloserine and isoniazid, especially in large doses, have been associated with seizures. Lithium therapy is occasionally associated with seizures. Finally, seizures frequently occur after the acute withdrawal of alcohol, barbiturates, and, to a much lesser extent, benzodiazepines.

Many drugs may cause syncope, as expected, from their mechanism of action. These drugs would include the nitrates and drugs used for their antihypertensive properties. Postural hypotension is very commonly seen, especially in the elderly, with tricyclic antidepressants.

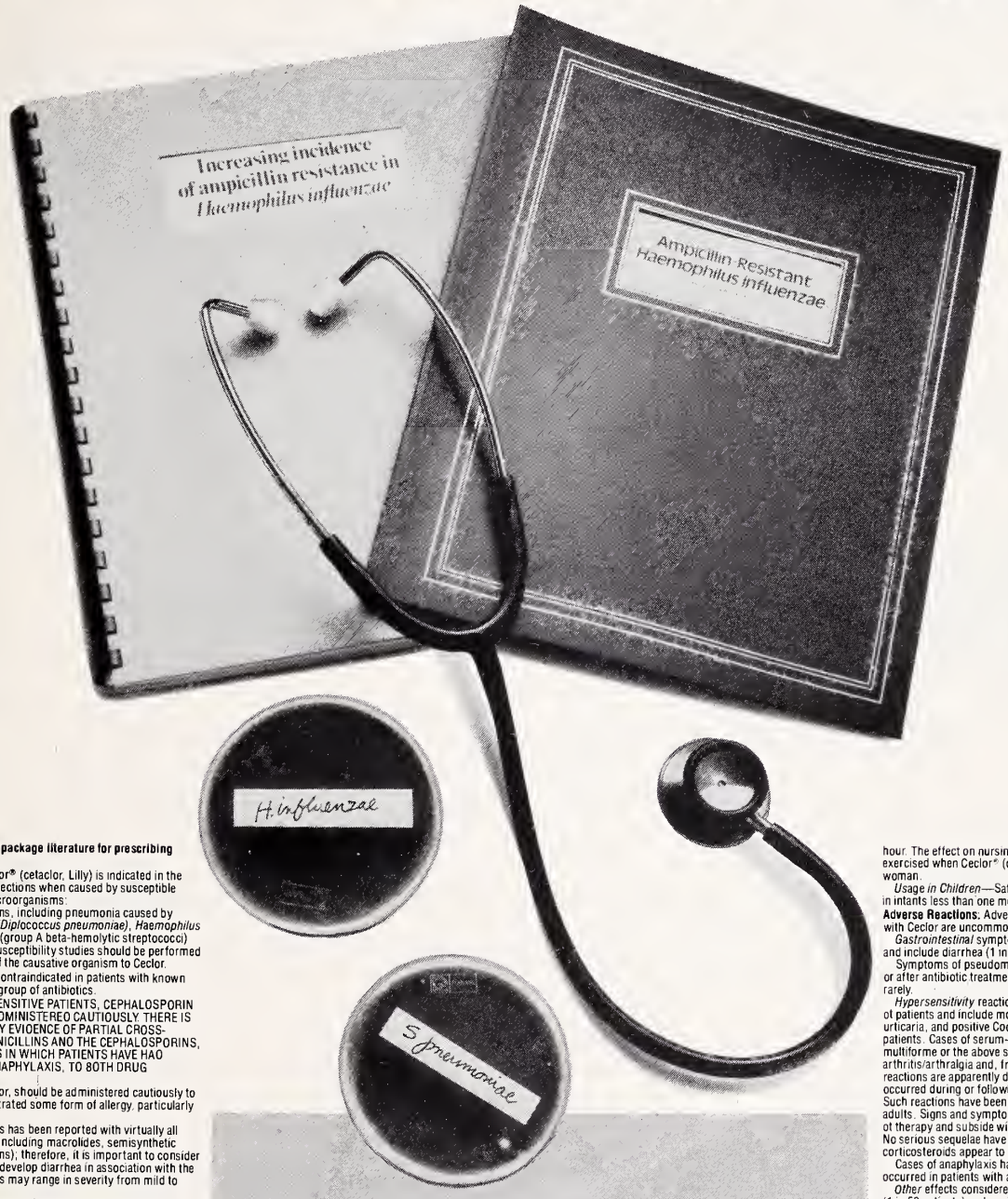
HEADACHE

There are many drugs that commonly cause headache including the nitrates, hydralazine, and indomethacin. Headache may also be precipitated by withdrawal from large doses of caffeine and amphetamines. Drugs which cause intracranial hypertension (e.g., tetracycline) have often been associated with headache.

(Please turn to page 147)

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
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Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile.* Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae.*"

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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DRUG THERAPY REVIEW

(Continued from page 144)

CRANIAL NERVE DISORDERS

Disturbances of vision have been caused by ethambutol, quinine, chlorpromazine, and thioridazine. More common are disturbances of balance and hearing due to the aminoglycoside antibiotics. Reversible hearing loss and tinnitus are frequently seen in patients on high dose salicylate therapy.

DYSKINESIAS

Voluntary movement disorders have been associated frequently with drugs. Some of these involuntary movement syndromes are reversible and include pseudoparkinsonism, akathisia, and acute dystonic reactions. Drug-induced parkinsonism is very similar to true parkinsonism; the patient may be stooped, walk with a shuffle, have poverty of facial expression, tremor, muscular rigidity, and difficulty with fine movements. Phenothiazines, reserpine, methyldopa, lithium, and the tricyclic antidepressants may cause this form of motor disturbance. Akathisia is a motor syndrome in which the patient tends to shuffle his feet, move around continuously, and is unable to sit still. This side effect is caused by phenothiazines. Acute dystonic reactions (as described in the preceding case report) are extremely dramatic and may be mistaken for tetanus or hysteria. Most of the time, muscles of the head and neck are involved with involuntary spasm of the tongue, trismus, oculogyric crisis, facial grimacing, and torticollis. In some cases, movements of the limbs or a bizarre gait are present. The phenothiazines and butyrophenones are important causes of acute dystonic reactions. Generally, acute dystonic reactions respond to intravenous diphenhydramine. Unfortunately, there are a large number of patients on chronic phenothiazine therapy, who develop an irreversible drug-induced motor syndrome (tardive dyskinesia). Generally, after many years on phenothiazine therapy, the patient may develop smacking and grimacing movements of the mouth, protrusion of the tongue, and orofacial dyskinesia. The trunk and limbs may be involved. The incidence of this syndrome may be up to 20% in institutionalized patients.

PERIPHERAL NEUROPATHIES

A wide variety of drugs may cause numbness, burning, or tingling of the extremities or a full-blown peripheral neuropathy. In some cases, axonal degeneration or segmental demyelination of peripheral nerves may occur. Currently, over 50 drugs in clinical use can cause peripheral neuropathy. Two examples are isoniazid and vincristine.

MYOPATHY

Drugs have been implicated in acute, subacute, and chronic proximal myopathies, myasthenic syndromes, polymyositis-like syndromes, and malignant hyperpyrexia. A common cause of acute, subacute, or chronic painful (or painless) proximal myopathy is alcohol. In renal failure, clofibrate can cause painful myopathy. Corticosteroids can cause a severe proximal myopathy. Drug-induced malignant hyperpyrexia (caused by general anesthetics and skeletal muscle relaxants) previously had a 65% mortality rate. However, a new treatment (dantrolene sodium) appears to be effective in many cases.

CONCLUSIONS

As noted here, drug-induced neurological syndromes are common and can mimic many common neurological disorders. It is extremely important that the physician obtain a complete history from each patient on the use of medications and other exogenous substances, e.g., alcohol. If this is done and is coupled with a recognition that drugs may either cause or play an important role in these particular syndromes, the clinician can generally provide the proper therapy.

The authors note that it is extremely difficult for a physician to remember all these adverse drug reactions. Hence, each physician should have available a ready source or two of drug information about adverse drug reactions. Several useful reference texts are provided below. — REYNOLD SPECTOR, M.D., *Professor of Medicine and Pharmacology and* MARK J. GOLDBERG, M.D., *Assistant Professor of Medicine and Pharmacology*

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STATE DEPARTMENT/ PUBLIC HEALTH

THE PROPOSED NEW HOSPITAL LICENSING LAW: SOME QUESTIONS AND ANSWERS

A position paper prepared by the Iowa State Department of Health.

Why do we have a hospital licensing law?

The existing hospital licensing law (Chapter 135B, *Code of Iowa*) was enacted in 1947 in order that the State would be eligible to receive federal funds to assist communities to build hospitals (the Hill-Burton program). Prior to that time Iowa, like most other states, did not license hospitals. The Hill-Burton program has now ended, and there is no reason to continue a State licensing program, other than for whatever protection it might afford the public.

What is the matter with the present hospital licensing law?

The existing law is ineffective. Rules which would affect hospitals may be filed only with the permission of a board consisting of 5 hospital administrators. There is no provision for representation of physicians or nurses or pharmacists or any other professional or consumer group. There is no provision to investigate complaints against hospitals. There is no method to enforce standards or to prohibit a dangerous practice short of revoking a hospital's license. Iowa's hospitals — which include some of the best in the country — are under no meaningful State regulation.

Some hospitals offer services (which they are ill prepared to offer) simply in order to compete with other hospitals. Some communities may have 2 or 3 hospitals — each offering the same specialized service in order to compete with each other. Yet the public would be far better served to have a specialized service centralized in 1 hospital in that community. Some hospitals want to continue to offer a full-range of services because they have always offered it — and they feel their communities want and deserve it. But is a community being well served if some of the hospital services are below par?

What other problems are there with the present law?

The existing law is vague. There is *one sentence* in the *entire law* which refers to the matter of hospital inspections, but the law is silent as to the scope of the Department's authority in making those inspections. This vagueness has prompted hospitals to resist the Department in its effort to investigate complaints. Some hospitals have refused to produce records which the Department needed to properly carry out its duties.

What about federal standards. Doesn't Medicare inspect hospitals?

In 1966 the federal Medicare program began. Medicare accepts JCAH or AOA accreditation in lieu of making its own inspection. Fifty Iowa hospitals which are not accredited by JCAH are inspected for Medicare participation. The Medicare inspection is actually done by the State Health Department and the University Hygienic Laboratory under a contract with the federal government.

The Medicare regulations have two main faults (a) There is no way of enforcement, except to terminate the hospital from Medicare and (b) There is no authority to certify the individual services the hospital offers; it is an all-or-none affair.

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

What about the Joint Commission? What role does it play?

In 1951 the Joint Commission on Accreditation of Hospitals was formed to develop standards and to survey hospitals for compliance with those standards. The JCAH is a voluntary program, and 83 of Iowa's hospitals participate. In addition, 2 other Iowa hospitals participate in a similar accreditation program carried out by the American Osteopathic Association.

But we should remember that the JCAH (and AOA) are educational and consultation programs. They do not investigate complaints, and their inspections are 3 years apart. The JCAH will not release its hospital reports to the public and it cannot enforce its standards except by revoking accreditation.

What is the Health Department's position on the corporate practice of medicine?

The Department has taken no position one way or the other on whether a hospital can hire a physician. While the Department sees no harm in a hospital hiring a physician, neither does the Department see any quality assurance harm in prohibiting such a practice.

(Please turn to page 150)

February 1983 Morbidity Report

Diseose	Feb. 1983 Totol	1983 ta Date	1982 to Date	Most Feb. Cases Reparted From These Counties
Amebiosis	6	7	19	Boone, Van Buren, Polo Alto
Brucellosis	0	0	0	
Chickenpox	899	1653	1601	Pottowattomie, Block Howk, Des Maines
Compylobacter	10	32	—	Dubuque, Polk, Wopello
Cytomegolovirus	2	4	2	Bremer, Linn
Eoton's Agent infection	29	65	45	Polk, Linn, Johnson
Encepholitis, viral	3	6	2	Polk, Scott
Erythemo infectiosum	7	10	40	Pattawottomie, Block Howk, Foyette
Gostroenteritis (GIV)	2483	4042	3306	Block Howk, Polk, Linn
Giordiosis	14	33	19	Johnson, Pottawattamie, Polk
Hepatitis, A	3	5	13	Dovis, Plymouth, Polk
Hepatitis, B	4	8	13	Audubon, Johnson, Pottowottomie
Hepotitis, Non A-B	2	3	3	Morion, Scott
Hepotitis type unspecified	1	3	1	Benton
Herpes Simplex	85	143	40	Johnson, Polk, Linn
Herpes Zoster	0	3	3	
Histoplasmosis	3	3	7	Decatur, Polk
Infectious mononucleosis	41	58	47	Floyd, Linn, Block Hawk
Influenzo, lob confirmed	36	37	1	Woshington, Polk, Johnson
Influenzo-like illness (URI)	8695	11937	7457	Jahnsan, Pottowottamie, Linn
Legionellosis	0	1	—	
Moloria	1	1	—	Buchonon
Meningitis				
oseptic	2	12	4	Scott, Tama
bocteriol	13	28	25	Palk, Dubuque, Dickinson
meningococcol	1	4	3	Block Howk
Mumps	9	26	8	Floyd, Winneshiek, Linn
Pertussis	1	2	0	Polk
Robies in animols	20	33	58	Butler, Dubuque, Hordin
Reye Syndrome	0	0	—	
Rheumotic Fever	0	0	1	
Rubello (Germon measles)	0	0	0	
Meosles	0	0	0	
Solmonellosis	10	25	26	Johnson, Linn, Marian
Shigellosis	6	7	6	Pottowottamie, Waodbury, Linn
Toxic Shock Syndrome	2	3	—	Cerro Gordo, Winnebogo
Tuberculasis				
totol ill	8	16	10	Palk, Dubuque
boct. pos.	6	13	9	Polk, Dubuque, Morsholl
Typhoid Fever	0	0	—	
Venereol diseases:				
Gonorrhea	311	674	594	Polk, Block Howk, Linn
Syphilis	0	2	1	

Labaratary Virus Diagnosis Withaut Specified Clinical Syndrome: Adenavirus — 1, Block Howk, 1, Hordin, 1, Lee, 1, Linn, 10, Polk, 1, Scatt, 1, Winneshiek; Hookworm — 1, Lee; Blostomycasis — 1, Webster; Trichurio — 1, Story; Caxsackie — 1, Dovis; Clanarchis — 1, Lee.

How is this proposed new hospital licensing law related to health planning?

Although it is not the purpose of the proposed law, its enactment would greatly benefit health planning efforts. It would give the Department greater authority to enforce health planning decisions, which should in turn help control rising health costs.

Is the public being adequately protected?

Not by the Health Department. The public is under the mistaken belief that the Department has an effective tool to correct bad conditions and bad practices in hospitals. This is simply not so. As a matter of fact, the Department would prefer that there be no hospital licensing law rather than the one we have. At least with no law the public would not have a false sense of security.

What will the Department's proposed new law accomplish?

The Health Department is proposing a new hospital licensing law which — while bold in its concept — is reflective of modern trends in medical care. What the Health Department proposes is simply this: a law which will license each hospital for those services it is best suited to offer; a law which is enforceable; and a law which provides for input from all interested groups before rules are filed.

To establish the State rules for each specific service, the Department will appoint an advisory committee representing hospitals, physicians, nurses, etc., to assist it in drafting rules. It is the Department's plan to establish hospital standards in Iowa that represent what the best hospitals in Iowa are already doing.

The Department has no plan to adopt some national standard that does not apply to Iowa. Instead the Department will draft rules with the advice of Iowa hospitals, Iowa physicians, Iowa nurses, Iowa pharmacists, etc. The purpose of the new law is not to punish certain hospitals, but to guarantee the public that any service any hospital offers will meet the prevailing standards of hospital care in Iowa.

IMS ON HOSPITAL LICENSURE

The Iowa Medical Society has conveyed two major concerns to the Iowa State Department of Health on its proposal to repeal and replace the existing hospital licensure law. First, the IMS believes that legislation drafted by the Department on this subject would alter existing statutory and common law to permit hospitals to enter into employer/employee relationships with physicians of all specialties. Second, replacement of Joint Commission on Accreditation of Hospitals activities in developing hospital quality assurance standards and accrediting hospital compliance with Department standards is likely to be far more complex and expensive than anticipated by the SDH. The IMS has offered to meet with the Department and others, including the Iowa Hospital Association, in an effort to update the existing Iowa hospital licensure law in a mutually acceptable form.

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(BRIEF SUMMARY)

DESCRIPTION: Each tablet contains 200 mg meprobamate and 325 mg aspirin.

INDICATIONS: Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated in these situations relief of pain is somewhat greater than with aspirin alone. Effectiveness in long-term use, i.e. over 4 months, has not been assessed by systematic clinical studies. Physicians should periodically reassess usefulness of drug for individual patients.

CONTRAINDICATIONS: ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds. MEPROBAMATE: Acute intermittent porphyria; allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS: ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE: Physical and psychological dependence, and abuse have occurred.

Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12-to-48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that at maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic®-M is not recommended for patients 12 years of age and under.

PRECAUTIONS: ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS: ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE: Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 gram meprobamate and survival with as much as 40 gram.

BLOOD LEVELS:

0.5-2.0 mg percent represents usual blood-level range after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration.

Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

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ABOUT IOWA PHYSICIANS

Dr. Carlyle C. Moore, Emmetsburg, recently was presented a 30-year service award by the Palo Alto County Hospital. Dr. Moore was cited for his unselfish dedication and commitment to health care in Palo Alto County. . . . The medical staff of St. Joseph's Mercy Hospital in Mason City has named **Dr. John R. Camp,** former Britt physician who retired last July an honorary staff member. . . . **Dr. Daniel M. Rhodes** has joined Morningside Mercy Medical Park in Sioux City. Dr. Rhodes previously was in family practice in Storm Lake and has been on the medical staff of Buena Vista County Hospital. . . . **Dr. Robert McCoy,** Mason City, recently was elected president of the medical staff at St. Joseph's Mercy Hospital. Other officers include — **Dr. W. K. Dankle,** Clear Lake, vice president and **Dr. D. L. Little,** Mason City, secretary-treasurer. . . . **Dr. John H. Gay,** Des Moines, recently was installed as president of the Polk County Medical Society. Other new PCMS officers include **Dr. Douglas Dorner,** president-elect; and **Dr. Michael Kent,** secretary-treasurer. . . . **Dr. Todd Langager** has joined the Ottumwa Clinic to practice internal medicine. Dr. Langager received the M.D. degree at the U. of I. College of Medicine; had a family practice residency in Mason City and completed a residency in internal medicine at Iowa Methodist Medical Center in Des Moines.

Dr. Glenn J. Hruska, Belmond physician for 36 years, retired January 1. A graduate of the U. of I. College of Medicine, Dr. Hruska joined **Drs. Sam Leinbach** and **Ed Watson** at the Steele Memorial Clinic in 1946. . . . **Dr. Samir Riad Wahby** recently began medical practice in Fort Dodge. Dr. Wahby received the M.D. de-

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gree at Cairo University in Cairo, Egypt and came to the United States in 1975. He interned at Brooklyn-Cumberland Hospital Medical Center in Brooklyn, New York and served his surgery residency at Brookdale Medical Center in Brooklyn. Following a year in private practice, Dr. Wahby returned to New York for 3 years of orthopedic training at Long Island Jewish Hospital, and Hillside Medical Center in New Hyde Park, New York. . . . At the annual meeting of the Tama County Medical Society, **Dr. C. W. Maplethorpe, Jr.,** Toledo, was named president; **Dr. L. G. Schaeferle,** Gladbrook, vice president; and **Dr. A. J. Havlik,** Tama, secretary-treasurer. Dr. Havlik has been secretary-treasurer of the Tama County Medical Society for 35 years and Dr. Schaeferle is a life member of the American Academy of Family Physicians. . . . **Dr. Donald E. Taylor,** Stuart, recently was named chief of staff at Guthrie County Hospital; other officers are **Dr. David Ahrens,** vice president and **Dr. Steven R. Bascom,** secretary. Dr. Ahrens and Bascom are Guthrie Center physicians.

Dr. Charles E. Driscoll, assistant professor, Department of Family Practice, U. of I. College of Medicine, was guest speaker at a recent meeting of the Johnson County Medical Society. Dr. Driscoll spoke on "Hospice Care for Iowa City." He is medical director of the Iowa City hospice. . . . **Dr. Paul Knouf,** Rockwell City, recently was elected president of the medical staff at Stewart Memorial Community Hospital; other officers are **Dr. Linda Iler,** vice president; and **Dr. Donald L. Skinner,** secretary. Both Drs. Iler and Skinner are Lake City physicians. . . . **Dr. Robert J. Weatherwax,** Fort Dodge, recently was named a fellow of the American Academy of Orthopaedic Surgeons. . . . **Dr. Mark J. Goldberg,** assistant professor of medicine, U. of I. College of Medicine, is one of 5 physicians to receive a three-year $48,000 teaching and research scholarship from the American College of Physicians. Dr. Goldberg will study how drugs affect people. . . . **Dr. James I. Gardner** recently was installed as president of the Mercy Hospital medical staff in Iowa City. Other officers are **Dr. Alan Sherburne,** president-elect; and **Dr. Vernon Varner,** secretary. All are Iowa City physicians.

Dr. Alda L. Knight will join the Mater Clinic in Knoxville in July. Dr. Knight graduated from

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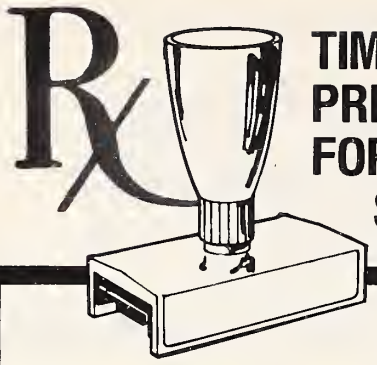
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the U. of I. College of Medicine and served an internal medicine residency at Iowa Methodist Medical Center and Veterans Administration Medical Center in Des Moines. For the past four years, Dr. Knight has been director of internal medicine at Broadlawns Medical Center in Des Moines and a faculty member of the U. of I. College of Medicine.

DEATHS

Dr. John E. Evans, 69, Des Moines, died February 6 at Iowa Methodist Medical Center. Dr. Evans received the M.D. degree at Northwestern University School of Medicine. A member of the medical staff at Veterans Administration Medical Center, he formerly was in family practice at Winterset.

Dr. John J. Shurts, 65, Eldora, died February 8 in Brownsville, Texas. Dr. Shurts received the M.D. degree at the U. of I. College of Medicine and interned at Mary's Help Hospital in San Francisco, California. A veteran of World War II, he was awarded the bronze star following his service on the U.S.S. Cape San Juan. Upon returning to Eldora, he joined his father-in-law, the late Dr. D. M. Nyquist, in medical practice. Dr. Shurts retired in 1974. He was a diplomate of the American Academy of Family Practice; a recipient of the AMA Physician's Recognition Award; Eldora school physician for 15 years; Hardin county medical examiner; past president of the Eldora Rotary Club; past president of the Hardin County Medical Society and served on various committees of the Iowa Medical Society.

Dr. Marie O'Brien Alcorn, 58, Mason City, died February 23 at a Mason City hospital. Dr. Alcorn received the M.D. degree at Creighton University School of Medicine in Omaha and interned at Wisconsin General Hospital in Madison, Wisconsin. She was a member of the American Academy of Family Practice; staff member of St. Joseph Mercy Hospital; and an associate member of the U. of I. College of Medicine faculty, affiliated with the Department of Family Practice. Among the survivors is her husband, Dr. Harry Alcorn, a Mason City physician.

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Dishing Up Nutrition Info

A CAREFUL READING of the curriculum of the College of Medicine at The University of Iowa reveals not a single course with the word *nutrition* in its title. But, as any recent Iowa medical graduate or resident can confirm, tomorrow's new physicians *are* learning about nutrition.

At the U. of I., the subject of nutrition is well woven into the medical education experience.

Freshmen first discuss nutrition in basic science courses — for example, in a biochemistry segment they are helped to understand the chemical structure of important nutrients. This and every other segment includes a clinical correlation — in this case, the rationale for the nutritional composition of a weight-reduction diet for an obese patient.

In the second-year *Introduction to Clinical Medicine* course, for instance, there is a focus on nutrition as the physician-patient relationship is discussed, particularly the matter of patient compliance.

During this part of the course, the medical students have some classes at the dining table. They eat meals typical of the restricted diets they will prescribe in the future for patients with cardiovascular, gastrointestinal and endocrine problems. At each special-diet meal a nutritionist discusses the rationale for that particular menu. And the students learn how physicians can increase patient compliance by helping to make the restricted diet as positive an experience as possible.

Third- and fourth-year medical students at the U. of I. regularly encounter nutrition education in their numerous and diversified clinical experiences.

By thus integrating the broad subject of nutrition education into the learning process in the various clinical rotations, students gain — and fix in their minds — a working understanding of the importance of proper diet at all stages of life. The value of this parallel approach can be seen in the important area of nutritional supplementation. Nutritional basics already learned serve as a solid foundation for discussions during each clinical rotation.

For example, while in the obstetrics service at University Hospitals, the medical student learns that pregnant women — even those with well balanced diets — generally need supplemental iron to meet the demands of pregnancy. Then in the pediatrics newborn service they readily see the importance of nutrition to both growth and healing.

In clinical experiences with surgical faculty, medical students learn the value of assessing a patient's nutritional status to determine if preoperative nutritional support is indicated to decrease morbidity.

The future physicians also work with post-surgery patients whose nutritional status may be altered because of the surgical procedure or complications. Here students get to apply what they have learned about requisite dietary compensations, possible metabolic consequences and correction or supplementation by intravenous or tube feedings.

Working on the oncology service, Iowa medical students become familiar with the special medical needs of cachexic patients. They learn ways to help these patients, whose nutritional status is suffering because of cancer or its therapy.

During their residencies the emerging physicians will gain practice in drawing upon the special skills of nutritionists and dietitians. And once in practice, they will have many opportunities to stay abreast of nutrition developments through continuing education programs.

With the current widespread interest in nutrition, it seems likely that tomorrow's medical students will be even more receptive to the subject wherever it appears in their studies.

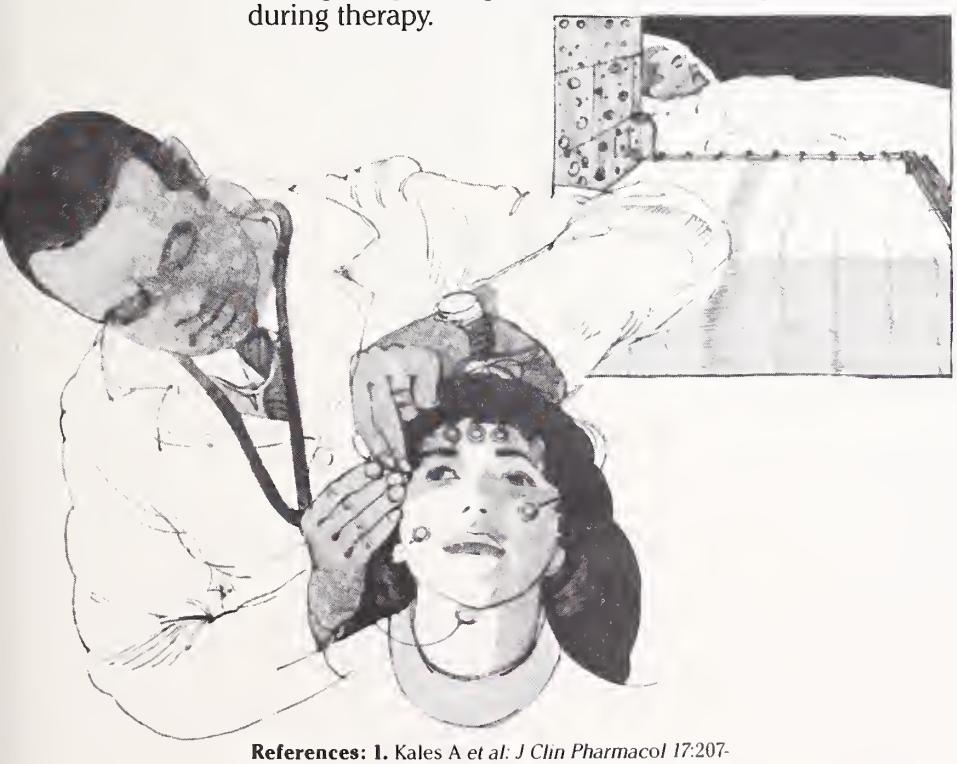
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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al; Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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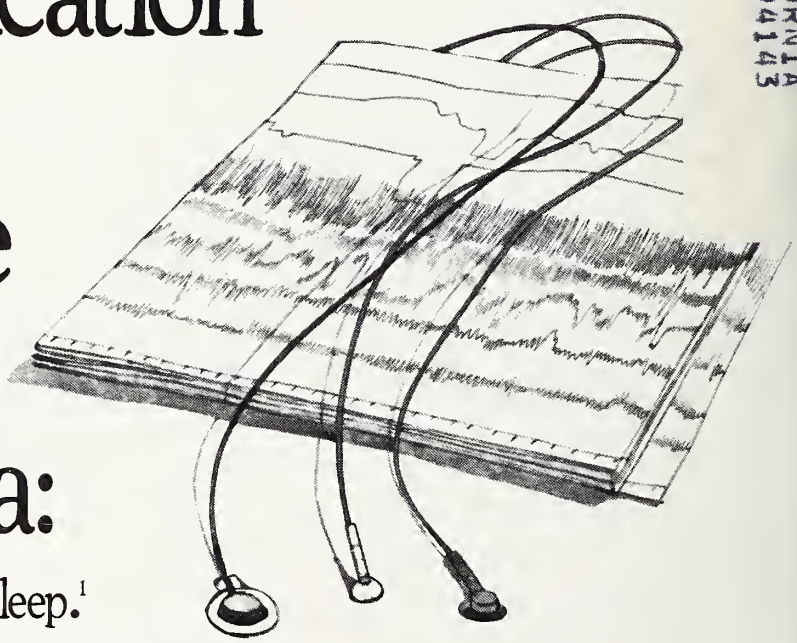
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CAN WE MARRY QUALITY WITH AFFORDABILITY?

THAT'S THE GOAL HPCI IS AFTER!

– See Page 169

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JOURNAL OF THE IOWA MEDICAL SOCIETY

MAY 1983/VOLUME 73 NUMBER 5

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ABOUT THE COVER — Our May cover asks the provocative question are quality and affordability compatible in health care delivery. It hopefully will encourage readers to turn to page 169 to read the comments of Charles S. Johnson, chairman of the new Health Policy Corporation of Iowa.

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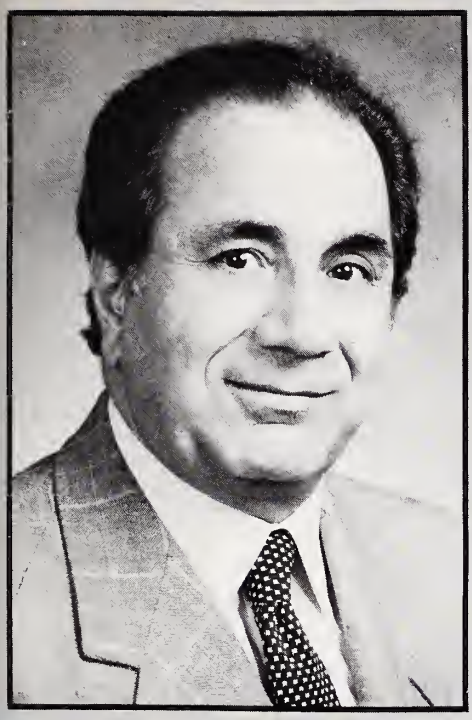
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UNITY IS ESSENTIAL

ANOTHER Iowa Medical Society presidential year is ready for the annals. I am honored to have served you in this important office. I appreciate the cooperation and courtesy extended to me.

As is typical, this year has had its share of challenges. And we end the year with most of the issues still before us. The optimists will regard these issues as opportunities; the pessimists will see them as frustrations or even worse. I prefer the first classification.

When this presidential year began I spoke a bit about practicality and idealism. Often there is a need to be practical in our day-to-day, on-the-street, in-the-office world. If we take a practical course, I believe it should be undergirded by something we might call idealistic professionalism. I refer here to a continuing need to affirm our strong commitment to high professional, ethical and educational standards. We must support only those programs or concepts that maintain and improve the excellent quality of care available in Iowa.

To succeed in our basic mission *(that a physician shall be dedicated to providing competent medical service with compassion and respect for human dignity)*, we must be unified. Iowa physicians are well-regarded nationally for their level of participation in organized medicine. This is laudable, and I would underscore, in this final writing, the importance of unity within our profession.

The IMS House of Delegates will have completed its 1983 deliberations when this is read. It will have dealt with a set of principles relating to quality, economics, competition, innovation, responsibility, leadership and the promotion of good health. And we will press on in our work.

I extend best wishes to Dr. Erling Larson in his presidential year.

H-Rassekh

Hormoz Rassekh, M.D.
President

THINGS YOU SHOULD KNOW

SEEBOHM AMA CANDIDATE

Paul Seebohm, M.D., an IMS past-president, is a 1983 candidate for the American Medical Association Council on Medical Education. Four persons will be elected to the Council at the June session of the AMA House of Delegates. Widely regarded in medical education circles, Dr. Seebohm is executive associate dean of the U. of I. College of Medicine.

IMS JOURNAL RECOGNIZED

For the third time in its eight-year history, the Sandoz medical journalism competition has recognized the JOURNAL OF THE IOWA MEDICAL SOCIETY. Iowa joined Michigan, Pennsylvania and Virginia to receive special 1983 awards. A $250 check and certificate were presented to Scientific Editor, Marion Alberts, M.D., at the 1983 IMS House of Delegates.

CR PREAD PROGRAM CITED

An innovative preadmission certification program started this year at St. Luke's Methodist and Mercy Hospitals in Cedar Rapids is described favorably in the current IFMC newsletter. Designed as part of the local delegated review system, the program has achieved good physician involvement and acceptance. Use is made of the Foundation outpatient/same-day surgery list with subsequent success in reducing unnecessary utilization.

IOWA LUTHERAN ISSUE

Polk County District Judge Harry Perkins has asked physicians, board and administration at Iowa Lutheran Hospital in Des Moines to meet within 30 days to address their differences. The April 20 action of the court was called unusual and came in response to efforts by the medical staff to overturn earlier hospital moves to terminate staff officers and close staff offices. The various parties expressed support for the court ruling directing effort be made to resolve the issues.

HOSPICE RECOGNITION

The Iowa Hospice Organization has recognized the IMS "for the tremendous support given to our organization." Presentation of a plaque was made April 4 by the IHO to Society President Hormoz Rassekh, M.D.

JCAH APPOINTMENT

John E. Tyrrell, M.D., Manchester, has received AMA confirmation of his appointment to the Professional and Technical Advisory Committee for Ambulatory Care of the Joint Commission on Accreditation of Hospitals.

HEALTH CARE COALITIONS

Iowa is one of more than 30 states in recent years to have seen emerge coalitions of business, labor, medicine and other groups to consider health care issues. Not all coalitions include members from the health provider groups. Among the Iowa cities with coalitions are Cedar Rapids, Waterloo/Cedar Falls, Des Moines and Sioux City. The Iowa Business/Labor Coalition on Health was formed in 1981 as a statewide umbrella body.

PHYSICIAN SELECTED

Dallas O. Minchin, M.D., a Council Bluffs anesthesiologist, recently was named chairman of the Iowa Commission on Substance Abuse. Dr. Minchin is a member of the IFMC board.

DUBUQUE ANNIVERSARY

The Dubuque County Medical Society and its Auxiliary will observe 150 years of medicine in Dubuque County with a special May 10 program. A presentation on this theme is to be made at the program by William J. Dall, M.D., a Dubuque internist.

LICENSING EXAM

Individuals taking the Iowa medical licensure exam will be restricted to the number of seats available at the test site. The June test will be given at the Veterans Auditorium. Ronald Saf, executive director of the Board of Medical Examiners, indicates requests to take the test have dropped off with the new requirement that foreign medical graduates first take a national English competence exam.

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USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.
Meprobamate passes the placental barrier, it is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that at maternal plasma. When use at meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.
USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic®-M is not recommended for patients 12 years of age and under.
PRECAUTIONS: ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.
MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney; to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.
ADVERSE REACTIONS: ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.
MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.
GI: Nausea, vomiting, diarrhea.
CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.
ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.
HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.
OTHER: Exacerbation of porphyric symptoms.
DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.
OVERDOSAGE: Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 gram meprobamate and survival with as much as 40 gram.
BLOOD LEVELS:
0.5-2.0 mg percent represents usual blood-level range after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.
3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.
10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.
At levels greater than 20 mg percent, more fatalities than survivals can be expected.
Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.
In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration.
Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.
HOW SUPPLIED: Bottles of 50 scored tablets.

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Wyeth Laboratories
Philadelphia, Pa 19101



QUESTIONS - ANSWERS

JOHN E. TYRRELL, M.D.
Manchester, Iowa

A MEDICAL LOOK AT HPCI

The emergence of the Health Policy Corporation of Iowa is described in another article in this issue. Here, Dr. John Tyrrell, one of two physicians on the HPCI board of directors, offers his close-in perspective on the potential for this new instrument.

What is the purpose of the Health Policy Corporation of Iowa from your physician perspective?

The purpose of the Health Policy Corporation of Iowa is to work to contain health care costs. It has been designated as the forum for discussion of the problems involved in rapidly escalating health care costs. It is also designated as a catalyst for action in the effort to moderate the increase in these costs.

Is it too early to tell really how great an impact HPCI will have on health care delivery?

No. HPCI has taken a strong stand in favor of a voluntary free market approach to the solution of these problems as opposed to regulation. It has recommended and promoted legislation to increase competition. HPCI supports the position that no one segment of society — doctors, hospitals, employers, labor, farmers, government, insurance — can solve the problems alone. HPCI has already been cited as one of the leading private sector initiatives in the country. Its influence should continue to grow.

Do you see the provider portion of the health care delivery equation receiving equal emphasis? In other words, is the quality factor going to hold up against the new *in* word — affordability?

At this time there is consensus that Iowans are receiving quality care. The concern at this time, particularly among employers, is why what appears to them to be quality care seems to vary so much in cost from one area to another. No one can deny that there is a conflict between the ideals of "quality" and "affordability." Physicians and other providers must constantly defend quality care.

HPCI is proposing regionalization or mini-HPCI's around the state. Is this practical? It essentially repeats earlier efforts, right?

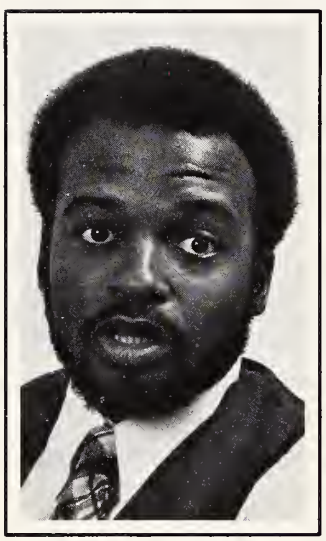
No one can say how effective regionalization will be. It is hard to argue with the concept that decisions about health facilities and services should be made as close to home as practical. The question is how willingly and objectively will the "mini HPCI" make meaningful decisions?

This effort is to be different from the previous approach used by the Health System Agency. The HPCI approach will involve the major metropolitan areas of the state, as contrasted to the five subareas established by the Health System Agency.

What role do you see the medical profession playing in the evolution of HPCI?

The medical profession must continue to be closely involved with the evolution of HPCI. As a forum for the exchange of information and viewpoints, HPCI has given physicians the opportunity to express their strong convictions on such issues as quality of care, confidentiality of data, and appropriate use of data. Physicians on HPCI are respected for their professional expertise and continually have the opportunity to represent Iowa's medical community. The value of meeting and discussing issues with other leaders in the Iowa health care field cannot be overemphasized.

"Sure I'm concerned, but what can I do about health care costs?"



■ That's a question we're hearing from a lot of Iowans these days, including physicians.

As individuals, our subscribers may not think they can have an impact on health care costs. They know some of the things they could be doing - like maintaining a balanced diet. Getting regular exercise. Keeping fit. Not smoking.

But there's more they can do.

For instance, we're encouraging Iowans to talk to you - their doctor - before undergoing treatment...to ask about costs and cost-saving alternatives such as pre-admission testing and outpatient care.

We're asking them to think twice before using the hospital emergency room as a 24-hour-a-day doctor's office. And we're emphasizing the importance of knowing what their health care program covers.

A more educated public is a first step in keeping costs down. But better communication is a two-way street.

Health care providers can help by talking to their patients about costs, the most appropriate settings for treatment, and staying healthy.

And Blue Cross and Blue Shield have a role to play in emphasizing benefit design which encourages less-costly outpatient care and discourages unnecessary hospital admissions.

Together with the physicians of Iowa and other providers, we **can** control the cost of health care in our state.

Blue Cross Blue Shield
of Iowa
Des Moines/Sioux City

HPCI Looks to 'Affordability'

CHARLES S. JOHNSON
Des Moines, Iowa

The Health Policy Corporation of Iowa will distinguish itself from earlier planning bodies by being an "action-oriented" organization. This sentiment is expressed here by Charles S. Johnson, chairman of the HPCI board. These thoughts are condensed from a March presentation by Mr. Johnson, to the IMS Executive Council. The emphasis is on seeking "affordability" without sacrificing quality.

In his 1981 condition of the state message, then Iowa Governor Ray said he planned to form a Commission to Study Health Care Costs. That group was formed, and at its April 1981 organizational meeting, the Governor charged the 11-member Commission to develop recommendations for both public and private initiatives aimed at containing health care cost increases. The Commission included people from diverse backgrounds — business, labor, providers, consumers and government. I was privileged to be a Commission member.

In its first year the Commission focused attention on hospital and physician costs. The Commission studied regulatory and competitive approaches to the health care market, payment systems for professional and institutional services and mechanisms to monitor and control utilization.

The Commission found several prominent characteristics about the Iowa health care delivery system, including:

- *Iowans enjoy high quality medical care and with few or no exceptions enjoy good accessibility.*
- *The unit cost of service in Iowa is not yet a problem although it is going up faster than the national average.*
- *Iowans tend to use the system excessively and oftentimes in an inappropriate setting.*
- *The delivery system is reacting quite rationally to a payment system which unfortunately rewards inefficient delivery and tends not to reward efficiency. Moreover, users of the system tend to be isolated from the costs.*
- *There is a great variability from county to county in admission rates, days/1000 of inpatient care and costs. This variation seems to have no relation to health care outcome.*
- *Finally, while there is blame for all — providers and consumers – much of the cost problem rests with the purchasers of group health insurance programs, i.e., employers and unions. As a group, we have done an embarrassingly poor job of purchasing health care for our employees and members. We have done a lousy job of specifying what we should purchase, at what price, in what quantities and where. As purchasers of group coverage, we have created negative financial incentives that fuel the health care cost problem.* In short, we have failed in our responsibility to hold providers accountable for the affordability of health care.

The Governor's Commission developed a list of principles and recommendations which will impact on the delivery system. It has been recognized the problem will not be fixed quickly, but we can no longer afford to ignore the economics of the delivery system.

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Mr. Johnson is chairman of the 22-member board of directors of the Health Policy Corporation of Iowa. He is vice-president for finance and treasurer, Pioneer Hi-Bred International.

A summary of the recommendations of the Governor's Commission says there needs to be:

1. An increased emphasis on market incentives, recognizing the need for certain enabling legislation.
2. Development of a better information system — recognizing the importance of supplying purchasers, consumers and providers of health services current and precise information. Again, enabling legislation may be needed.
3. Payment systems should be modified to encourage the cost effective delivery of quality health care in the most appropriate setting.

"Business, government and other large payers are now promoting accountability. It is essential that providers be informed."

4. Utilization review systems must be supported, strengthened and their scope broadened. Information from utilization studies must be disseminated to both providers and purchasers of health care.
5. Effective methods must be implemented to stem and reduce unnecessary capital investment.

In addition, there are Commission recommendations relating to lifestyle, long-term care, substance abuse, mental health and other important but less well defined areas.

The Commission was mindful that its report would be of limited value without implementation. This led to a third significant development. In 1982, the Iowa Health Systems Agency (HSA) was reformed into the new Health Policy Corporation of Iowa (HPCI).

These are pertinent facts about HPCI:

1. *It is an action-oriented organization.*
2. *Its board is broad-based representing business, labor, providers, government and consumers — all with a significant constituency and the ability and desire to implement change in the health care system. Dr. John Tyrrell and Dr. George Baker are on the HPCI board. They represent your organization and the University of Iowa College of Medicine.*
3. *HPCI was selected by former Governor Ray as the vehicle to implement the Commission Report. We have the same commitment from Governor Branstad.*

Iowans enjoy high quality, accessible medical care. This is due to the high degree of accountability the providers and purchasers have felt toward the patient. The goal of the Commission and HPCI is to add an additional dimension — that being, *affordable* medical care.

Such a goal adds a new accountablity — that being for *affordability;* this means accountability to the payer. When the patient and the payer were the same person there was no problem. Then came Medicare, Medicaid and employer-paid medical insurance. The patient and payer became, in the real sense, different people. This circumstance was ignored unfortunately, and led to the problem we face today. It is fundamental now that we accept accountability to the payer. Business, government and other large payers are now promoting accountability. It is essential that providers be informed.

ADDRESSING ACCOUNTABILITY

HPCI believes this accountability can be addressed as part of the health care cost management problem. To do so, we will need information. We need to measure and evaluate what is going on. A lot of information is generated in the health care system. Yet, it is difficult to assemble it as a reliable and meaningful resource.

Five companies in central Iowa: Pioneer, Meredith, Northwestern Bell, Maytag and the DES MOINES REGISTER have been gathering information for about a year with the help of Blue Cross/Blue Shield. It is quite revealing. For example, we found 172 dilatation and curettage procedures performed that year for our employees, 122 were done inpatient at an average cost of $1,785; 46 were done outpatient at an average cost of $677, and 4 were done in a physician's office at an average cost of $247. Most experts seem to agree that at least in the first two settings, the medical quality is the same and probably is for all three.

We also found the cost of a normal delivery (a 3-day stay) ranged from $789 to $1,103 — a 40% range — among Des Moines hospitals. Other similar examples are plentiful. This information is the crucial first step to identify problems.

Next, we need to understand better the proper settings for various procedures and the appropriate lengths of stay. What are the standards against which we measure variances using the data? In Iowa we have a resource to assist in this connection.

FOUNDATION EXPERTISE

The Iowa Foundation for Medical Care exists to develop information and coordinate utilization review. It has the expertise to make such judgments. The IFMC has identified over 210 procedures suitable for outpatient performance. This list is open to expansion. In the hands of purchasers the aforementioned information and activity can foster considerable accountability and be a powerful management tool.

One Iowa company, Pella Rolscreen, recently modified its health benefit program to require many procedures be done on an outpatient basis to qualify for payment unless there are extenuating medical reasons. It has been successful in containing costs with *no* loss of quality.

As the data mentioned earlier is studied, one begins to see desirable outcomes, i.e., outpatient vs. inpatient, doctor's office vs. inpatient, and so on. But the company health benefit program probably will not motivate that outcome. We might find that the procedure will *only* be paid on an inpatient basis or some such thing. Therefore, the benefit design must be modified to motivate the desired outcome. Pioneer did this with its program beginning last year. Two other Iowa companies, Meredith Corporation and the DES MOINES REGISTER, have changed their programs.

On a per employee basis, Pioneer has had the following health care cost experience:

HEALTH BENEFIT COST CHANGE	
1980 OVER 1979	+23%
1981 OVER 1980	+20%
1982 OVER 1981	−23%

This says to me that if one works at it, it is possible to contain health care costs.

Iowa generally has an oversupply of acute care hospital beds. The significant root cause of our cost problem is overuse of these beds and inpatient services.

"Iowa generally has an oversupply of acute care hospital beds. The significant root cause of our cost problem is overuse of these beds and inpatient services."

As practice patterns change to more outpatient or office care, the costs will simply be shifted to outpatient services. This will be true if we do not address the need to downsize the supply of acute care beds. There is some suggestion of that happening now in Iowa. We intend to be alert to the opportunities to question the replacement of excess hospitals or the building of new.

What role can and should physicians play in HPCI? Why should they be interested?

HPCI is sincere in its desire to have physicians, hospitals and other providers at the table along with business, industry, labor, consumers and other purchasers of health care. While it is natural for there to be differing opinions, acknowledging the complexity of health care delivery and financing, we believe it is important to work together, understand our points of view, and to proceed constructively within an established framework.

QUALITY PLUS AFFORDABILITY

HPCI intends to emphasize access to high quality health care while adding the additional component of affordability. In terms of the overall four-point HPCI strategy, physicians can and will play a key role in the ongoing strategy to identify high quality affordable health care standards. We need leadership from the Iowa Medical Society, specialty societies, University of Iowa College of Medicine, the Iowa Society for Osteopathic Physicians and Surgeons and the Iowa Foundation for Medical Care to assist in identifying these quality standards.

A key to cost management is data collection. We need to understand what the data says about how health care is delivered. We need to evaluate why delivery may differ from the standards described earlier. We need to formulate policy and action to move the delivery systems more in line with the desired standards.

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This HPCI activity takes place within the Data, Research and Policy Committee. This committee consists of 11 members, of whom 5 are providers. Clearly, provider input is important to insure that the committee collects relevant data, that the data is adequately analyzed, and that it accurately supports the conclusions attributed to it. Finally, too, information must be presented in a way to convey accurately the intended meaning to the various publics.

Communication and public education on health care cost management issues are important. The Communications and Coordination Committee of HPCI must develop the process by which information and policy recommendations are communicated to various decision makers who establish financial incentives, modify practice patterns, and set the appropriate aggregate size of the delivery structure. This committee is composed of 10 members, of whom 4 are providers. Clearly, if this committee is to function effectively it is essential that providers be involved. Through this commitee, HPCI intends to develop local health coalitions in Iowa. These local coalitions must be broad-based and include in their membership physicians, hospital administrators, and other providers, as well as business, labor, consumers, and local government representation. In fact, we advocate local broad-based coalitions (junior HPCI's if you will) to function in as many as 11 target communities. Clearly, again, physician participation in these local health coalitions is important.

"HPCI is not and should not be dominated by any one interest group. . . . This may be more an 'in the eyes of the beholder' perception."

We have been asked by various interest groups, primarily in state government, to serve as an information or study resource on various health care issues. These issues include questions arising concerning the State Papers Program, appropriate levels and needs for tertiary care, the need to transport indigent patients to Iowa City to broaden the experience base for doctors in training, and how to deal with the shortfall of Medicare and Medicaid payments. Again, it is both desirable and essential that providers be significantly involved in addressing these questions.

BROAD INPUT

HPCI is not and should not be dominated by any one interest group. It has come to my attention that some may perceive that HPCI is excessively dominated by interests contrary to that of providers. This may be more an "in the eyes of the beholder" perception. Let me quote what I recently wrote on this subject to the HPCI board.

"We are told by providers that HPCI is moving too fast to aggressively change their environment. We are told by the main street business folk that HPCI is not aggressive enough in moving to change provider behavior. We are told by providers that our legislative agenda is too aggressive and the pace of change too fast. We are criticized by a number of legislative leaders for not providing them with legislative suggestions that are aggressive enough relative to changing and modifying provider behavior. I guess that tells us that HPCI is probably moving down a reasonable course at a reasonable pace and that we are on balance, doing a proper job."

I might point out, additionally, a reason given for modifying the Data Commission to no longer designate the chairman of HPCI as its chairman was that, in the eyes of key legislators, HPCI is too dominated by providers. Again, "in the eye of the beholder."

We all profess a profound interest in cost containment, and in concept are truly committed to it. When it comes to the implementation of specific programs there is a natural and understandable conflict between the interest of the purchaser and the interest of the provider. It is extremely important not to be unmindful of this conflict and to deal with it with appropriate sensitivity. We can only do this when both purchaser and provider are at the table working constructively to address the health care cost issue in the kind of forum which can be provided by HPCI.

Anxious patients improve in just a few days



And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility. Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules, knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

...that's one of the unique benefits of

Valium®

diazepam/Roche

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For a summary of product information, please turn the page.

ROCHE®

Valium® (diazepam/Roche) Ⓝ Tablets
Valrelease™ (diazepam/Roche) Ⓝ slow-release Capsules
Injectable Valium® (diazepam/Roche) Ⓝ

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> *Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

ROCHE®

Formaldehyde Poisoning Successfully Treated With Hemodialysis

GEORGE G. SPELLMAN, SR., M.D.
Sioux City, Iowa

This case study describes the successful outcome derived from the aggressive treatment of metabolic acidosis with sodium bicarbonate and hemodialysis. It appears to have been lifesaving in this instance of formaldehyde poisoning.

FORMALDEHYDE POISONING is being encountered more frequently. It may occur accidentally by undue exposure to formaldehyde released from insulation made from urea-formaldehyde foam. Formaldehyde is readily available and is not infrequently used in suicide attempts. There has been a lack of agreement on the treatment of formaldehyde poisoning. This was discovered upon confrontation with a case of formaldehyde poisoning.

Three weeks subsequent to our case, the Toxicology Center at the University of Iowa reported the rapid metabolism of formaldehyde to formic acid and postulated that "dialysis is effective in removing formic acid from the blood of humans and removal of formic acid may be effective in combatting the metabolic acidosis that may occur in systemic formaldehyde poisoning."[1]

The author is associated with Internal Medicine, P.C., in Sioux City, Iowa and is director, dialysis unit, Marian Health Center in that community.

CASE REPORT

A 58 year old man returned from vacation the day prior to admission, found he had lost his job, and became depressed. On the day of admission he bought 8 ounces of formaldehyde, drank it all, and drove to the river planning to jump in.

However, he decided against this and decided to come into the hospital. He found he was unable to walk because his legs would not hold him. He hailed a city truck in the area, and the driver drove him to the hospital. He arrived at the hospital about 3 hours after drinking the formaldehyde.

His skin was warm, dry, and very pale. He was extremely weak. He vomited once on his way to the hospital. He complained of abdominal pain and shortness of breath.

He had had a coronary occlusion with an anterior myocardial infarction 8 years previously.

His pH at the time of arrival was 6.98. His pO2 was 47. His stomach was immediately

(Please turn to page 176)

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF MAY 1983

lavaged with large amounts of saline and sodium bicarbonate and a lot of brownish material was obtained from his stomach with the odor of formaldehyde. He became more and more stuporous. Sodium bicarbonate was given in large amounts and his pH was followed. He went into a ventricular tachycardia at a rate of 200. This did not respond to Lidocaine. He was defibrillated twice without stopping the ventricular tachycardia. His skin became more and more mottled and cyanotic and his blood pressure dropped. He was given Inderal intravenously and this controlled the ventricular tachycardia. His respirations became more labored and he had muscle spasms. His body became stiff and almost rigid. Gastric contents were examined for barbituates, sedatives, tranquilizers, antihistamines, analgesics, stimulants, and opiates and none were present.

Arrangements were made to put the patient on dialysis. He was given large amounts of fluids intravenously and his kidneys were stimulated with Lasix. Various poison control centers were contacted and all but one believed dialysis would probably not be beneficial. The other one thought that it would be if we were able to get him on dialysis soon enough and to control his acidosis in the meantime.

The access lines were put in and he was started on hemodialysis 3 hours after he arrived at the hospital. He improved rapidly.

He had received 1700 meq of bicarbonate, as well as other supportive measures, including fresh frozen plasma. He was dialyzed for 6 hours and his pH was 7.22 just before dialysis and 7.54 at the conclusion of the dialysis.

He developed a severe ileus which continued for a number of days. He was short of breath and had a lot of rhonchi in his chest. The chest x-ray showed a small pleural effusion or infiltrate at the bases of his lungs and an infiltrate in the right upper lobe. He gradually improved and became asymptomatic over a period of 10 days. His lungs and intestinal tract healed with no evidence of residual damage.

Serial electrocardiograms showed only the changes of his old anterior myocardial infarction.

His CPK was massively increased to 5,040 but this was all of the MM band type, indicating probable acidotic injury to his skeletal muscles. The MB band was very weak. The LDH iso-enzymes also showed a pattern compatible with skeletal muscle injury. He did have a fever for 9 days after admission, reaching 102.4 48 hours after admission.

He subsequently received psychiatric therapy and has made a complete recovery.

COMMENT

As has been pointed out previously, formaldehyde is rapidly converted to formic acid and the immediate danger to life is the marked acidosis that it produces.[1] This patient demonstrated the marked changes, including ventricular tachycardia, that occur with acidosis. Control of the acidosis with large dosages of bicarbonate combined with prompt hemodialysis was life saving for the patient.

Other authors have demonstrated the value of hemodialysis in methanol intoxication. Methanol is oxidized to formaldehyde, which, in turn, is rapidly oxidized to formic acid with resulting severe metabolic acidosis.[2, 3]

SUMMARY

Aggressive treatment of the metabolic acidosis with sodium bicarbonate and hemodialysis is effective and lifesaving in the treatment of formaldehyde poisoning.

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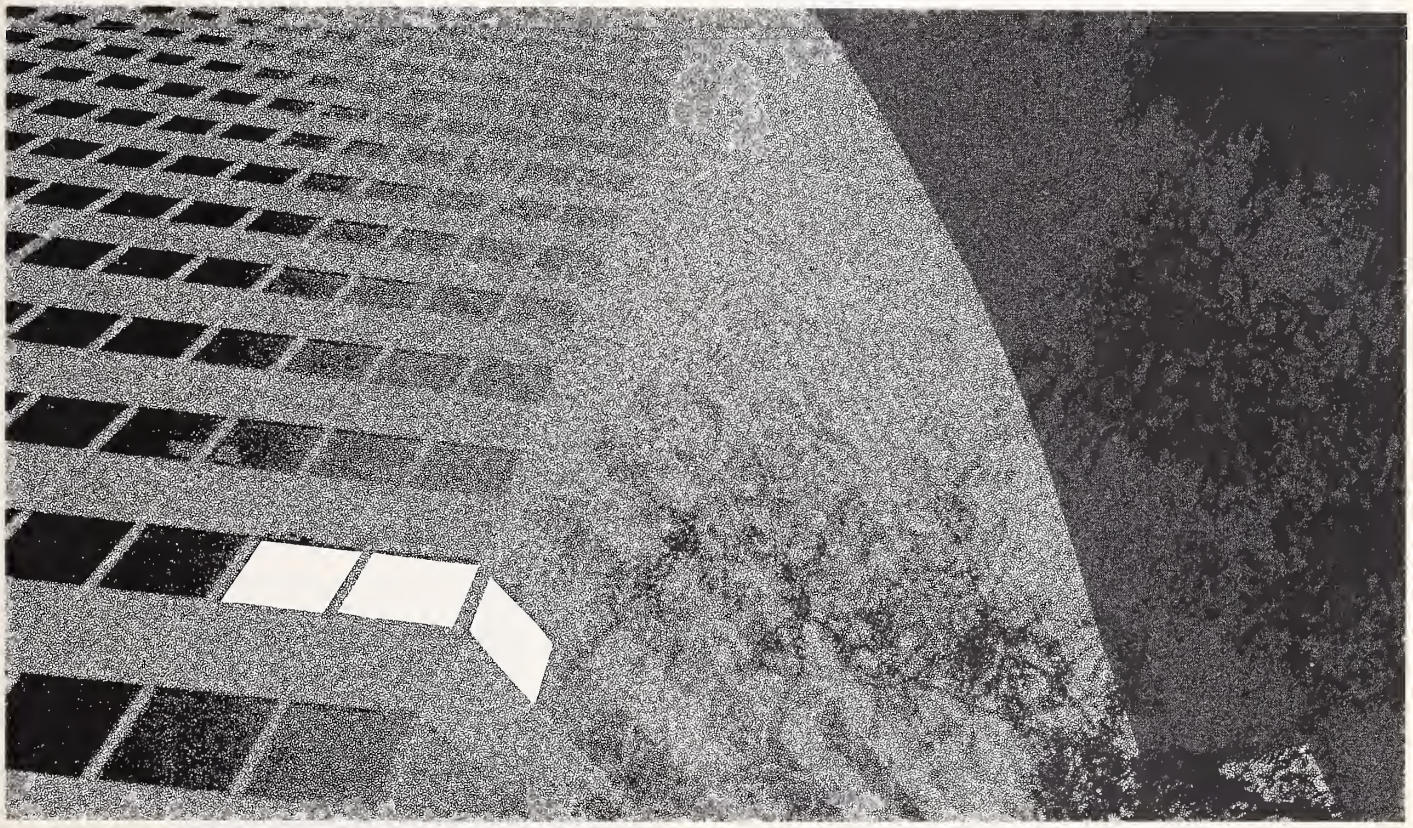
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LIFE EXPECTANCY

A baby born in the United States last year can expect to live 74½ years, a record U.S. life expectancy, according to the Metropolitan Life Insurance Company. For girls, it's 78.2 years, a jump of about 16 weeks since 1981. For boys, its 70.7 years, about 21 weeks more than 1981. The gap between male and female is the narrowest since 1968.

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Diaphragmatic Muscle Flap For Closure Of A Bronchopleural Fistula

RONALD G. BUSH, M.D.
Waterloo, Iowa

Bronchopleural fistula occurring after a pneumonectomy is a most serious complication. Improved surgical technique and preoperative evaluation have reduced the incidence of this complication. Early therapy is based on adequate drainage of the empyema and later control of the fistula if possible. In recent years, greater use of pedicled flaps of muscle has been used for closure of these fistulae. This case report describes the use of the diaphragmatic muscle to close the fistula, and illustrates the ease in which this may be performed.

THE INCIDENCE of bronchopleural fistula has been reduced with improved surgical techniques and an increased awareness of predisposing factors. The incidence reported by various authors ranges from 4-27% of patients. There has been a greater use of pedicled muscle flaps to close the fistula in recent years. The following case report illustrates the use of a flap of diaphragmatic muscle to effectively close a large bronchopleural fistula.

CASE REPORT

A 56-year-old white male presented for evaluation of a right upper lobe mass. The bronchial washings were positive for adenocarcinoma. The mass was distal to the secondary division of the apical segment. The carina was reported as normal on bronchoscopy. He was referred for further therapy. A fiberoptic bronchoscopy confirmed the above findings. On November 6, 1979, he underwent a right thoracotomy. Hilar nodes were positive for adenocarcinoma; therefore, a pneumonectomy was performed. Mediastinal nodes were negative. Closure of the 1 cm stump was performed with staples. Frozen section of the proximal stump was reported as showing no tumor; however, 2 days later the permanent sections showed areas of submucosal infiltration of tumor.

The evening of November 7 it became necessary to intubate the patient due to respiratory insufficiency. On November 18, evidence of a bronchopleural fistula was evident with a chest x-ray showing an air fluid level. The patient became febrile. Closed thoracostomy drainage was started immediately. The patient had received intravenous Keflex since the perioperative period. After stabilization, 4 days later, open drainage was performed by resection of the 8th, 9th and 10th ribs, laterally. Due to a massive air leak from the large fistula, a tracheostomy was performed for better ventilatory management, and the post pneumonectomy space was packed to control the air leak. Cultures revealed Enterobacter aerogenes and appropriate therapy was started.

Gradual improvement occurred until 6 days later when profuse bleeding occurred from the post pneumonectomy space. The patient was returned to the operating room for inspection of the cavity through the previously performed fenestration. No actual site of bleeding could be found. The large fistula was identified and careful dissection of its margins performed. Using 3-0 Prolene, the margins were proximated as much as possible without tension;

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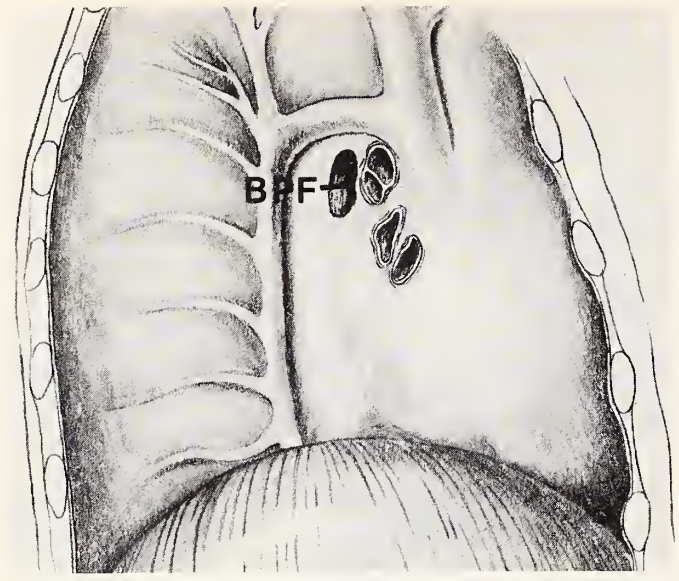


Figure 1. Bronchopleural fistula as seen in the right post-pneumonectomy space.

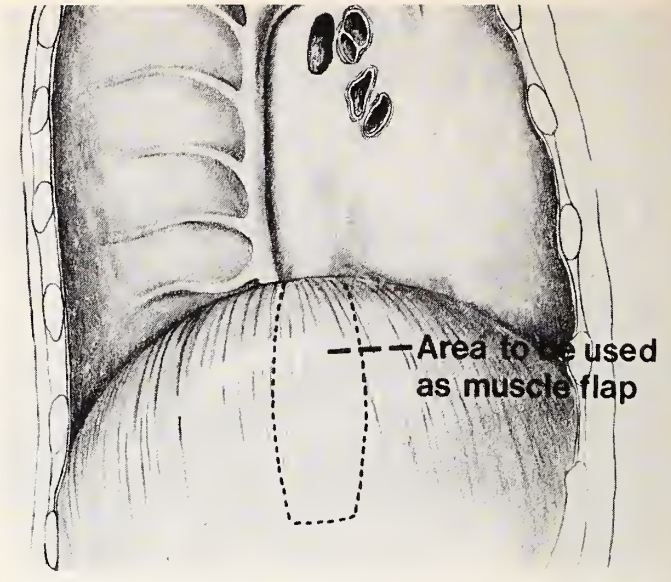


Figure 2. Area of diaphragm to be used as a muscle flap is outlined with its base on the inferior margin of the diaphragm.

bronchial margins in the mid line of the fistula were not completely approximated. Due to the need to control the large incapacitating air leak, it was decided to reinforce the closure with a muscle flap. Due to the patient's critical condition and need for expeditious treatment, the decision was made to use a muscle flap from the diaphragm (See Figures). The patient did well with successful closure of the bronchopleural fistula. Three weeks later, he was released from the hospital with irrigation carried out at home. Six months later, there was complete obliteration of the post pneumonectomy space. Two and one-half years later, he is alive; however, there are metastases to the right hip.

COMMENT

There are many factors associated with the etiology of bronchopleural fistulae. Causative factors include: 1) inflammation or tumor in the bronchial margins; 2) poor bronchial closure or an excess bronchial stump; 3) devascularization of the bronchial stump; 4) preoperative irradiation; and 5) pleural space contamination leading to bronchial disruption.[1, 2]

The treatment of these fistulae is fairly standardized in the early stages; however, opinions vary as to definitive therapy after initial treatment. At first, adequate and dependent drainage of the empyema is established. Closed thoracostomy is recommended as a first step, followed by open drainage with rib resection. Greater use of the pedicled flap of muscle has been used recently after control of infection. Barker describes 17 cases treated with muscle flaps. However, only 2 of the cases followed a pneumonectomy. Limitation of the size of the empyema cavity was performed by thoracoplasty.[3] Virkkula reported 4 cases of post pneumonectomy empyema associated with large bronchopleural fistulae closed with a pectoralis skin pedicled flap.[4] The literature contains scattered case reports utilizing chest wall muscles such as the intercostal muscle, serratus, or pectoralis with fairly successful closure of bronchopleural fistula.

Another report describes the use of an omental pedicled flap for closure of a bronchopleural fistula following a left lower lobectomy.[5] Other authors describe treatment of a bronchopleural fistula with no attempt at fistula closure or fenestration. Brown describes the treatment of a bronchopleural fistula by prolonged endobronchial intubation, and irrigation of the empyema cavity.[6] Karkola describes 7 patients treated with antibiotic irrigation and closed chest tube drainage with no fenestration performed.[7] No mention was made of the size of the fistula.

Another definitive method used to treat empyema associated with an established bronchopleural fistula is fenestration followed by irrigation, with no direct attempt at closure of the fistula.[8, 9] A small fistula may be expected to close and the space rendered sterile. Later, the open thoracostomy may be closed. Larger fistula must be packed to prevent the large air leak, or closed as discussed above.

A large bronchopleural fistula following a

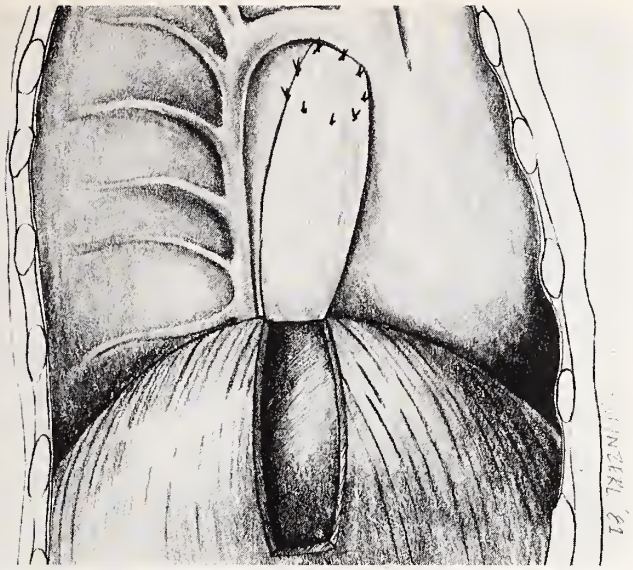


Figure 3. The flap has been swung up and sutured around and over the fistula.

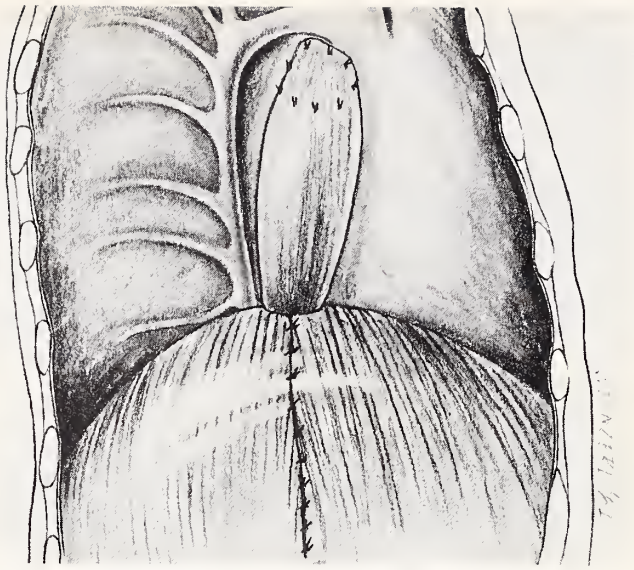


Figure 4. Completion of the procedure by repairing the diaphragmatic defect.

pneumonectomy presents a difficult problem. Within the first few days, early closure may be tried with direct suture, reinforced with a pedicled flap of intercostal muscle. However, this is not a guarantee of success, nor is the patient's condition many times sufficiently stable. Within 2 to 3 weeks, after stabilization and adequate treatment of the infection, many changes have occurred rendering closure of a large incapacitating air leak more difficult. These include changes associated with inflammation of the respective chest cavity. The chest wall is involved with the sequalae secondary to infection. Successful harvesting and use of the intercostal pedicled flap is much more difficult. A thoracoplasty has less chance of success secondary to the noncompliant chest wall. Inflammatory changes have occurred around the fistula itself also. All of these factors make it difficult to adequately and easily manage late closure of the fistula.

A viable muscle holds the greatest promise of success in closure of these large fistulae. However, using the pectoralis or serratus involves considerable dissection and operative time in these critically ill patients. Controlling the infection, and closure of the fistula, which are many times one and the same, would promote healing and gradual filling of the post pneumonectomy space. If a viable flap of muscle is used and the closure is successful, no further treatment of this space is needed. Gradual reduction in its size will occur; or after a period of time, closure of the fenestration may be undertaken.

Consideration for a muscle flap from the diaphragm should be considered for 3 important reasons. 1) The operative procedure may be carried out through the previously performed fenestration obviating the need for an additional surgical incision. 2) The diaphragm is easily accessible, and formation of flaps is easily done; and anatomically is well suited. 3) The diaphragm is rich in blood supply which is imperative for a successful muscle flap.

One possible complication is contamination of the abdominal cavity. However with adequate preoperative preparation and drainage of the respective subdiaphragmatic space, the potential is greatly lessened. The ease with which the diaphragm may be used in these critically ill patients stresses the practicality of this procedure.

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BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCAROIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCAROIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCAROIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCAROIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCAROIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCAROIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCAROIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCAROIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCAROIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCAROIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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Pfizer LABORATORIES DIVISION
PFIZER INC

"I can do things that I couldn't do for 3 yrs. including joining the human race again."



Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



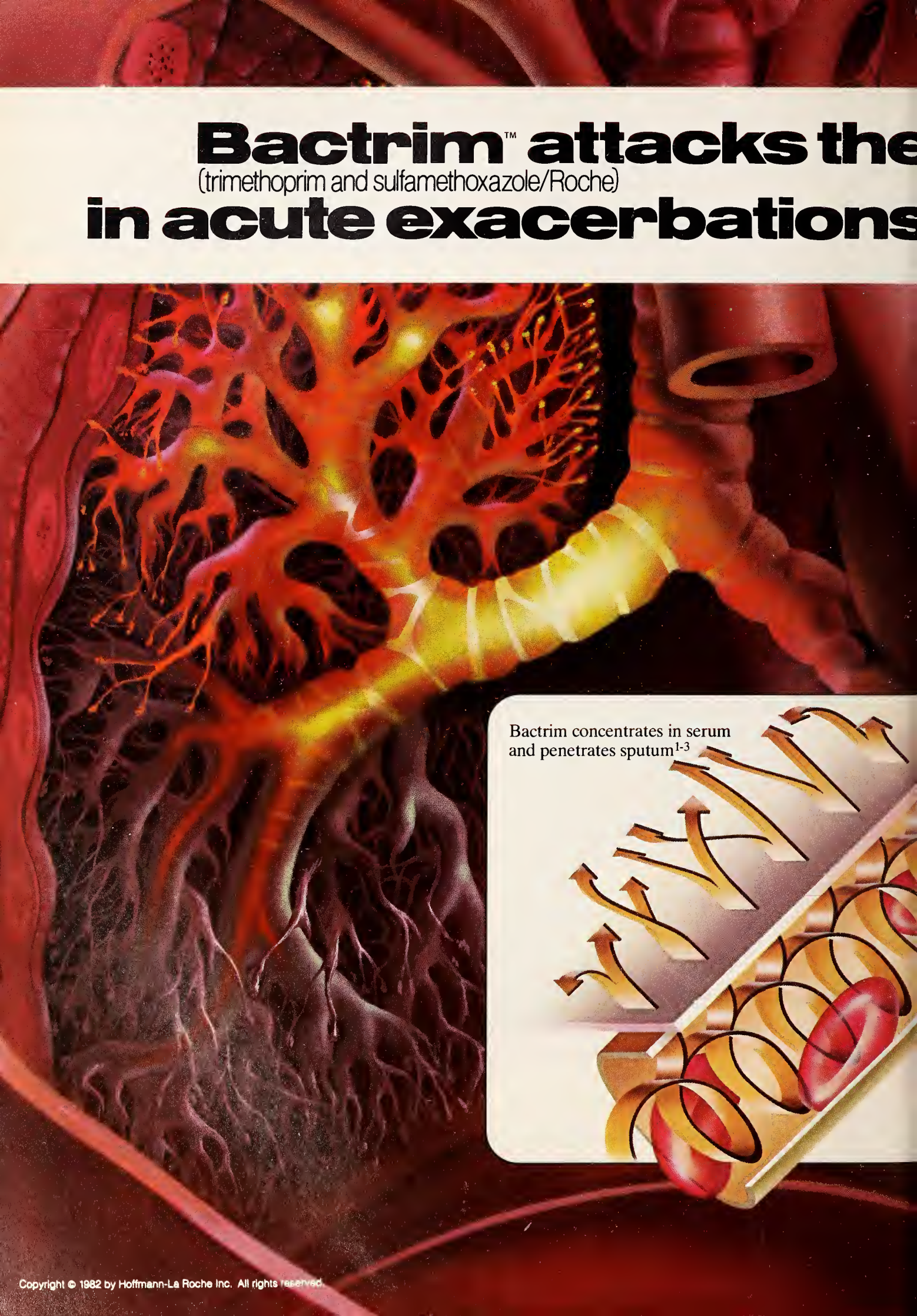
for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA *brief summary on adjoining page.*

Bactrim™ attacks the
(trimethoprim and sulfamethoxazole/Roche)
in acute exacerbations



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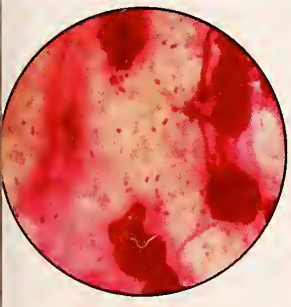
major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

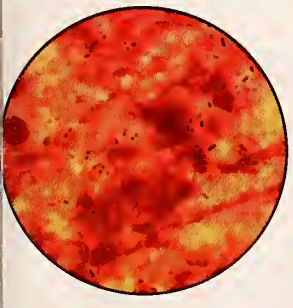
In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

acks *H. influenzae*—even
mpicillin-resistant strains



attacks *S. pneumoniae*



Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother 1/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J 112*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother 1*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection 6*(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

PHYSICIAN, HEAL THYSELF

THE HIGH POINT in the life of a medical doctor is when those two important letters, M.D., qualify to go behind the name. The Doctor of Medicine degree is earned after years of arduous study, after denial of some personal pleasures, and after a long period of conditioning the mental faculties. Unfortunately, this conditioning sometimes takes its toll and opens the door to self-destruction. The letters, M.D., to some seem to indicate "M. Diety," rather than "Medical Doctor."

Most physicians handle their position in life very well. True, I am sure, each of us experience periods of depression with feelings of frustration over our mission in life. We meet stresses daily that are not familiar to those pursuing other endeavors. Our personal life is far from personal. Our families too often are relegated to a secondary position. We become more concerned with our status in society and among colleagues, while our children must adapt to a more uncertain and unstable existence. It is no wonder there is increasing concern for the physician who is unable to withstand the stresses of medical practice. More and more physicians are able to deal with personal dilemmas, thanks to helping programs initiated by the medical profession. The impaired physician is an ill person, and the provision of help for these individuals is an important responsibility we have.

The Iowa Medical Society has an active program to assist the troubled physician. All of us should be aware of and cooperate with the IMS Assistance Program for Troubled Physicians. Doctors who are faced with emotional problems or who are addicted to alcohol or drugs often exhibit early symptoms which we may recognize. Be aware of potential problems in a colleague experiencing mood swings or out-of-character behavior. Watch for any significant changes in routine; is there a withdrawal from people? Has our friend's life become more intense? Last, but not least, is there a use of self-prescribed drugs?

Emotional denial is not healthy. We are trained to control our emotions when dealing with patients; yet, we should not deny our own emotions. We should not conceal our emotions with overwork addiction or replace our personal values with overzealous feelings that we are indispensible. All of us can be victims. All of us are guilty at one time or another of denying our families the love and attention they deserve. Truly, we must be aware of the need to heal ourselves as well as our patients. — M.E.A.

Letter to the Editor

VIVA BASIC SCIENCE

Dear Editor:

The editorial entitled *Ruminations on Basic Science Courses*, by Dr. Richard Caplan, was pointed out to me by one of my colleagues who teaches in the basic sciences. He was uncertain of its intent, and after reading it I, too, am uncertain. Is Dr. Caplan suggesting that the basic science content of the medical school curriculum be reduced?

Dr. Caplan quotes Eugene Stead, a noted internist and medical educator: "The basic science faculty are to reinforce the liberal education that, one hopes, the student acquired in college, to encourage greater language competence among the students, and to show how various disciplines approach the solution of problems. The basic science faculty are not there to stuff the heads of medical students with innumerable facts. . . . They are there to give joy to the learning, to reinforce patterns of

(Please turn to page 184)

satisfaction gained from intellectual effort, and to create a research environment. . . ."

I think these are tasks of any educator, no matter what his field. But the most important role for a member of the basic science faculty must be to teach the content of his discipline, and this means to teach facts as well as concepts. These facts and concepts provide the framework for our clinical concepts and knowledge.

If we had gotten only what Stead proposes out of the first two years of medical school, our clinical knowledge would have no structure. Can you imagine, for instance, understanding what is going on in a patient with Horner's syndrome without ever having taken a basic science course? How would we be able to explain the combination of a small pupil and a droopy eyelid without remembering from our anatomy course that both the pupil and the eyelid have a common innervation via the sympathetic nervous system? How would we understand why the pupil is small without remembering the histology of the iris and the physiology and pharmacology of the autonomic nervous system? How would we know where to find the lesion causing the Horner's syndrome unless we knew the anatomy of the sympathetic chain?

Unfortunately for the poor medical student, facts *are* necessary. Learning them *is* necessary. We may not remember all of the small details we learned in our basic science years, but the concepts, terminology, and the more important details are an integral part of our practice of medicine. In my experience, the physicians who contribute most to the diagnosis and therapy of their patients are those who have the most secure grounding in the scientific basis of medical practice. Without this basis, problems cannot be solved and there can be none of the intellectual satisfaction that Stead mentions.

I write because I have been concerned for many years about ill-advised moves to reduce the basic science content of our curriculum. I doubt this was the intent of the editorial. In fact, I think it may have been just the opposite. However, after re-reading the editorial several times, I was not sure. Neither was my basic science colleague! — CHARLES D. PHELPS, M.D., *Iowa City*

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8:00 A.M. Registration
8:20 A.M. Welcome and Opening Comments
8:30 A.M. Small Cell Cancer of the Lung
9:05 A.M. Advances in Childhood Malignancies
9:45 A.M. Coffee Break
10:10 A.M. Adjuvant Chemotherapy for Breast Cancer
10:40 A.M. Radiation therapy for the Nonradiotherapist: Fact or Fiction
11:30 A.M. Questions
11:45 A.M. Break
12:00 P.M. Grand Rounds — Infections in Immunocompromised Hosts
1:00 P.M. Break
1:15 P.M. Advanced Cancer Management at Clarkson Hospital: HOCC, Hospice, Hickman
Panel Discussion
1:50 P.M. Clarkson Bone Marrow Transplant Program: An Acute Leukemia Therapy
2:30 P.M. Monoclonal antibodies: The Fourth Wave?
3:15 P.M. Coffee Break
3:40 P.M. Malignant Lymphomas: A Panel Discussion on Classification, Diagnosis, and Therapy
4:40 P.M. Questions
5:00 P.M. Adjournment

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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

GARBAGE, GRIME AND GRAFFITI

RUBBLE, RUBBLE everywhere, and nowhere an end in sight. Burned-out buildings, charred ruins, heaps of rubber tires, infinite graffiti, squalid huts like the worst that Bogotá can display, decay, grime, crumble, shards of glass from broken windows, garbage, debris, women in mink coats and patent leather shoes striding past bag ladies asleep in doorways. The train's route, exiting Manhattan from Grand Central Station does not reveal the city to its best advantage, even though tall buildings in the distance imply some potentially positive features. The ride makes one despair, or at least wonder at such an incredible phenomenon. It is so awful that one grows aweful.

But one also passes so many other kinds of things in that city. The manifestations of libraries, museums, public schools of all levels, colleges and universities of general and specific purposes, private academies — there's no doubt that education represents one of the important institutions of that strange society that likes to call itself the Big Apple. Its educational institutions are not only present, but many of them are at the zenith of modern education — in humanities, arts and sciences of all sorts. Maybe they are analagous to the wearing of mink coats, while some of the inner city schools, according to stories of lamentation in the *New York Times*, represent "the pits." It is a transmutation of the mink-coated ladies and the bag ladies. Education in the dungheap. An immense city is necessary to make possible such extreme contrasts in such close proximity and so profusely repeated.

One's mood cannot help being ambivalent in all this. On a January day, with the sky a dark gray and the Harlem and Hudson Rivers reflecting the somber hue, the entire environment seems awash with too much of the ancient black bile, tinting everything grey along with oozing its burden of melancholy. On the other hand, one's spirit moves at least slightly upward in recognizing the accomplishments in culture, education, the arts, science and technology. The educational evidences include the amazing number of book stores and all the reading materials sold in vending stalls on the street and in subway stations. The profusion of ads in the subways and busses bespeaks a literate society. Some of the YMCAs have a program of educational, social and cultural activities that would put to shame many a college.

"What would be the reaction, do you suppose, of one who had viewed the original Tower of Babel, if that person could view modern Manhattan? It would seem fair to imagine the effect 'mind-boggling.'"

What would be the reaction, do you suppose, of one who had viewed the original Tower of Babel, if that person could view modern Manhattan? It would seem fair to imagine the effect "mind-boggling." But fortunately, the human brain and imagination have demonstrated marvelous ingenuity in their works and ability to cope. Perhaps one should be impressed with the tenacity of those city dwellers — or maybe that tenacity is only inertia.

In a dunghill the bacteria work steadily, and ultimately the soil is enriched. That which is dunghill comes to nourish and become that which is beautiful and desirable. Something like that may be happening in New York City. For that matter, it's likely so in your town and mine, a part of the way things are. Do with it what you will — lament and tear your hair, or raise up your head in wonderment.

When the white snow comes and covers all this, fresh and clean, and the blue sky permits it all to sparkle, so much will seem better.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

NONSTEROIDAL ANTI-INFLAMMATORY DRUGS (NSAID): USE AND MISUSE

With the basic regimen of rest, physical therapy and psychological support, the nonsteroidal anti-inflammatory drugs (NSAID) constitute the mainstay of therapy for most rheumatic diseases. With the proliferation of NSAID, questions naturally arise as to how to use them. This review will touch on NSAID's probable mechanisms of action, their common characteristics, and an approach to their rational use in the rheumatic diseases.

Nonsteroidal anti-inflammatory drugs are said to have as their principal mechanism of action prostaglandin synthetase (Cyclic endoperoxide) inhibition. In fact, of course, these drugs have multiple pharmacological effects. At high concentrations *in vitro* they inhibit the lipoxygenase pathway as well as inhibiting other enzymes such as phosphodiesterase.[1, 2] It is thought that, secondary to these actions, NSAID can increase intracellular cyclic AMP, decrease monocyte and lymphocyte function, inhibit vasodilatation, and inhibit edema formation. They are, in addition, analgesics and anti-pyretics.[2, 3]

Although all NSAID are effective in the treatment of rheumatoid arthritis, degenerative joint disease, the seronegative spondyloarthropathies (such as ankylosing spondylitis, Reiter's syndrome, and psoriatric arthritis), gout, soft tissue injuries, and juvenile chronic polyarthritis (also called juvenile rheumatoid arthritis), all NSAID are not FDA approved for all of these indications (see Table 1, FDA-approved indications). Furthermore, these drugs are effective in treating dysmenorrhea, and several of them have been used to treat patent ductus arteriosus.[3, 4, 5] Since the prostaglandin synthetase and lipoxygenase pathways are very ubiquitous, it is not surprising that the NSAID have effects in diseases other than simply the rheumatic ones.

In addition to similar degrees of effectiveness, the NSAID have a commonality of clinical pharmacological properties. Thus, they all share a rapid onset of action, relatively good bioavailability, a high degree of protein binding, an antiplatelet aggregation effect, and gastrointestinal effects (including varying degrees of NSAID-induced GI blood loss).[2]

CLINICAL EFFECT

Most NSAID will have their onset of clinical effect in days to one to two weeks. Should no satisfactory clinical effect be noted during this time period at any given dose, then serious consideration should be given to either changing the NSAID dose or changing from one NSAID to another.

In the fasting state, bioavailability of these drugs is 90% or greater.[2, 3] In most cases antacid therapy, or food, does not decrease bioavailability (with the exception of fenoprofen which has a significant decrease of bioavailability if the drug is given in the fed state).[6] With the exception of phenylbutazone and possibly tolmetin, all NSAID seem to share an enterohepatic recirculation. This fact takes on importance if one realizes that there is a direct relationship between the amount of active drug in the GI tract and the incidence of GI toxicity.[7] This is particularly true in elderly patients where decreasing renal function, and consequently decreasing renal clearance of NSAID, is compensated by increasing fecal excretion of the drug so that GI effects can be expected to increase in the elderly.[8]

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

A high degree of protein binding leads to the possibility that drug-drug interactions may be important when one uses NSAID. Although usually minimal, the interaction between NSAID and anticoagulants can occasionally result in unexpected prolongations of prothrombin times and secondary bleeding.[2, 3] For most NSAID, reversible platelet aggregation inhibition is the rule, with the antiplatelet effect lasting as long as the drug is detectable in the plasma.[2, 3] Aspirin is an exception in this case as its effect on platelet aggregation is irreversible and lasts as long as the platelet circulates.[2, 3] This property of aspirin has been used to good advantage, and aspirin is frequently used as a platelet aggregation inhibitor.[4]

Compared to aspirin, where approximately 2-4 cc of blood is lost through the GI tract in 24 hours, most other NSAID have significantly less GI blood loss (usually 1-2 cc per day).[2, 3] This fact would assume greater importance were it possible to show that there is a correlation between the degree of blood loss and the likelihood of clinical ulcers or the incidence of dyspepsia . . . correlations which have not been proven to date.

While much effort has been expended in attempting to develop NSAID whose toxicities are less than already marketed NSAID, this effort has thus far not been well-rewarded. In fact, NSAID appear to have a commonality of toxicities.[2, 3] By far the most frequent toxicity is gastrointestinal with dyspepsia, nausea, vomiting, flatulence, etc., occurring in between 20 to 40% of patients on full doses of NSAID. The incidence of ulcer is much less, usually in the range of 1-2%.[2] O'Brien's review of indomethacin toxicity is a good example of toxicities to NSAID.[9] The next most frequent NSAID adverse effect is that relating to the special organs or central nervous system. Thus, tinnitus or decreased hearing occurs in 20-40% of patients on aspirin and 1-5% of patients using other NSAID. Dysphorias, headaches, nightmares, disturbed sleep, and feelings of "spaciness" also occur in a low percentage of patients given any of the NSAID.[2, 3] This appears to be particularly true for indomethacin and its first cousin, sulindac.[9] While of very low incidence, hematologic effects such as leukopenia, thrombocytopenia,

(Please turn to page 188)

HEALTH PROFESSIONALS!

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TABLE I

Generic Name	Trade Name	AV. Daily Dose (in mg)*	Av. Doily Cast** (Dollars)	Serum Half-Life (Hrs.)	FDA-Appraved Uses***
A. Solicylotes					
Aspirin	—	3000-5000	0.17-0.28	12-26	RA, OA, AS, JCA, ST
Choline Mognesium Trisalicylote	Trilisate	3000-5000	0.80-1.34	12-26	RA, OA
Solicylsolicylate	Disolcid	3000-5000	0.54-0.93	12-26	RA, OA
Sodium Solicylote	—	3000-5000	0.15-0.25	12-26	RA, OA, AS, JCA, ST
B. Long Serum Half-Lives					
Indomethocin	Indocin	150	0.96	6-20	RA, OA, AS, G
Naproxen	Naprosyn	1000	1.04	12-15	RA, OA
Phenylbutazone	Butozolidin	400	0.36	70-80	RA, OA, G
Piroxicom	Feldene	20	0.76	31-57	RA, OA
Sulindoc	Clinoril	600	1.41	16-20	RA, OA, AS, ST, G
C. Short Serum Holf-Lives					
Fenoprofen	Nalfon	2400	0.84	2	RA, OA
Ibuprofen	Motrin	3000-3200	0.96-1.05	2	RA, OA, JCA
Tolmetin	Tolectin	1600	0.80	6	RA, OA, JCA

* In rheumotoid orthritis
** Iowo City, August, 1982
*** RA = rheumotoid orthritis
OA = osteoorthritis
AS = onkylosing spondylitis
JCA = juvenile chronic polyarthritis (JRA)
G = gaut
ST = soft-tissue ond shoulder injury

and aplastic anemia can rarely occur with any NSAID. Phenylbutazone, of course, has deservedly a reputation for causing these problems most frequently, but sulindac and indomethacin can cause the same problem in a frequency approximately one-twentieth to one-tenth of that of phenylbutazone.[2, 3] In fact, all of the NSAID have been associated with this problem. Other side effects common to all the NSAID include skin rashes, fevers, liver function abnormalities, and renal dysfunction. For all the latter adverse effects the incidence is usually less than 1% although it occasionally may appear in up to 3% of patients.[2, 3] In most cases, these adverse effects will occur in the first few months of treatment so that it is appropriate to screen patients before starting them on NSAID and observe them for the first several months of NSAID use.[10]

RATIONAL APPROACH

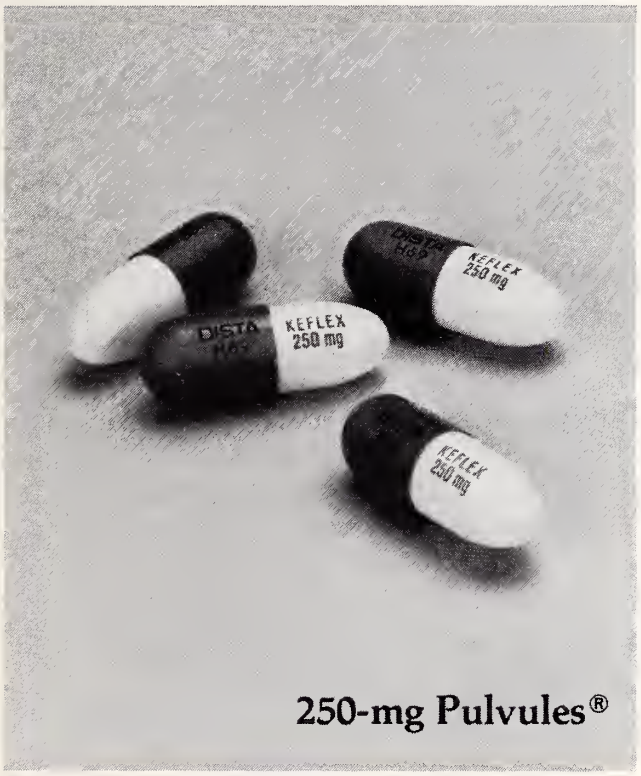
With so many common characteristics, how does one approach the use of these drugs? It is unfortunately true that there is at present no way to predict which patient will respond to which NSAID so that frequently, empiric trials must be utilized. Nevertheless, in that setting, a rational approach to the NSAID is possible. That approach rests upon the following factors: (1) experience with the NSAID; (2) the disease to be treated; (3) the presence of other diseases which might modify the use of a given NSAID; (4) compliance considerations; and (5) cost considerations.

Of all the NSAID, aspirin is the one with which we have the most experience. Further, there has been no convincing proof that any of the other NSAID is more effective than aspirin. In addition, a guideline for establishing the appropriate dose of aspirin is available — a serum salicylate concentration between 150 and 300 mg/1 (15-30 mg%).[2, 3] It is estimated that approximately 60% of patients who can achieve these serum concentrations will have a satisfactory response to this drug. Further, of all the NSAID, aspirin is by far the least expensive (see Table). Unfortunately, adverse effects such as tinnitus or dyspepsia may supervene, and in that case, other nonsteroidals should be used.

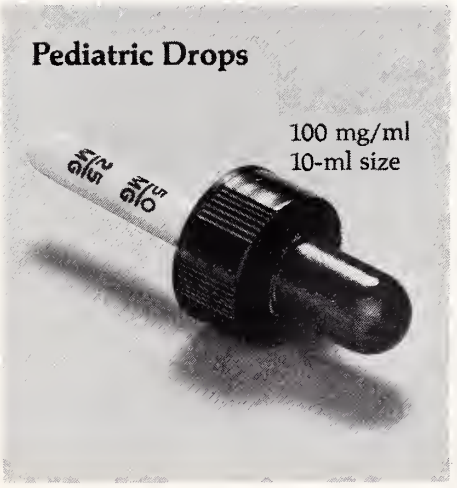
In the context of aspirin, it is worthwhile noting that there has thus far been no data supporting the use of two NSAID together as being more efficacious than a full dose of either

(Please turn to page 190)

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DRUG THERAPY REVIEW

(Continued from page 188)

one alone. While a study of naproxen and aspirin has been published claiming additive effects, this study is seriously flawed and is contravened by another study which shows no increased efficacy but an increase in toxicity when aspirin and indomethacin are used together.[11, 12]

Consideration of the disease to be treated may also help guide the use of a particular NSAID. Thus, aspirin is the drug of first choice for rheumatoid arthritis; indomethacin is believed by most rheumatologists to be the drug of first choice when treating ankylosing spondylitis or Reiter's disease; and aspirin, tolectin, or ibuprofen are used in juvenile chronic polyarthritis.[2, 3, 13, 14]

Frequently, the presence of diseases other than the rheumatic disease being treated by NSAID can help guide treatment. Thus, patients with TIAs may be benefited by using aspirin or NSAID with longer half-lives (see Table, Group A or B) where the antiplatelet aggregation effects can be expected to last for longer periods. Also, patients with a history of active ulcer disease should be treated with NSAID from Group C in the Table, where the antiplatelet effect is quickly gone after each dose of drug. In the latter context, the use of nonacetylated salicylates such as sodium salicylate, salicylsalicylate or trisalicylate (Group A) may be especially useful as they have very little antiplatelet effects even at anti-inflammatory concentrations.[15, 16]

In the rheumatic diseases where chronic drug administration is a necessity, compliance may be a major factor. In that case, it is clearly advantageous to use drugs from Group A or B which might be given only once or twice a day. This is a major thrust of the newest NSAID (such as piroxicam) which can be given on a once-a-day basis. However, with the newer NSAID on the market, it is appropriate to be somewhat cautious as experience in the marketplace may be different from that in the initial 1,500-2,000 patients studied (witness the unfortunate postmarketing experience of benoxaprofen).

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Cost considerations are sometimes of major importance. The Table lists the daily costs for treating a patient with rheumatoid arthritis as of August 1982. The cost of aspirin would average approximately 30¢, the cost of most other NSAID approximates $0.70-1.00, and a few NSAID would cost well over $1 per day.

While differential toxicities have not been emphasized in this review, it is worth noting that the severe toxicities associated with phenylbutazone make it a drug of last choice in most cases. This is not to say that it is never to be used, but that the other NSAID should first be attempted and phenylbutazone should only be used when these have not been effective or tolerated.

While not a definitive approach, it might be instructive to outline the approach I might use in a patient with rheumatoid arthritis. Initially, aspirin in full dose would be used with appropriate salicylate levels to achieve anti-inflammatory effects. Thereafter, if salicylates are ineffective or toxic, a drug with a long serum half-life such as indomethacin, naproxen, or possibly clinoril, might be used. Should complicating disease be a factor, such as the possibility of GI bleeding, a drug with a short serum half-life, such as ibuprofen, tolmetin, or fenoprofen would be attempted. For the very elderly patient, I frequently use lower doses of all of these drugs or begin with a drug with a short serum half-life so that dose-proportional toxicity will disappear quickly should it occur. If compliance considerations are a major factor and other long serum half-life NSAID are not effective, then piroxicam is a viable alternative.

In many cases I will screen the patient with a 12-channel chemistry and complete blood count prior to starting the drug, and at one or two months after beginning a given NSAID.

The use of the above approaches can simplify and make more rational the treatment of patients with NSAID, although in the last analysis, a certain amount of empiricism will still be needed. NSAID are an integral part of the basic conservative management of rheumatic disease patients and can ameliorate the symptoms and help preserve the function of a majority of rheumatic disease sufferers. When used correctly, this class of compounds can prevent or delay the need to use steroids or disease-modifying antirheumatic drugs such as gold, D-penicillamine, etc. — Daniel E. Furst, M.D. *Associate Professor of Medicine.*

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HEALTH VOTE 82

Before and *after* surveys of Des Moines area residents in connection with last fall's unique *Health Vote 82* education campaign showed an increased public understanding of the issues and options involved in health care.

For example, Polk County citizens after the campaign, were found to know more about health care inflation, more about the cost of a typical insurance policy, more about an HMO, etc. There was greater acceptance for using a paraprofessional for routine care; of joining an HMO; of choosing a family doctor from a list screened for price and quality.

STATE DEPARTMENT/ PUBLIC HEALTH

COUNSELING HYPERTENSIVES ABOUT DIET

According to the National High Blood Pressure Education Program, weight and sodium control are becoming increasingly important in treating hypertension. Yet many physicians who tell patients to lose weight or cut down on salt may not offer much practical help.

According to the committee of physicians and other health professionals that coordinate the National High Blood Pressure Education Program, being overweight is a medical problem because it is associated with several serious conditions: high blood pressure; elevated blood sugar levels and diabetes; high uric acid levels and gout; and increased serum cholesterol levels. Results of the Framingham Coronary Heart Disease Study suggest that being overweight alone, independent of its relationship to other conditions, increases a person's risk for developing heart disease.

Although the scientific use for sodium restriction to help control high blood pressure does not allow for any sweeping generalizations, it is generally agreed Americans eat more sodium than they need. The Senate Select Committee on Nutrition and Human Needs recommends all Americans cut their salt intake to 5 gm a day instead of the estimated 6 to 18 grams they now consume (5 gm of salt contain 2 gm of sodium). People with a family history of hypertension, according to the National High Blood Pressure Education Program Coordinating Committee, should be particularly encouraged to keep their sodium intake down. For those who have hypertension, some studies show that moderate sodium restriction, alone and in combination with drugs, can help some patients reduce their blood pressures.

(Please turn to page 194)

TEST YOUR SODIUM IQ

Do you know enough about the sodium content of foods to advise your patients? To test your knowledge of the sodium levels in some common edibles, choose the one item in each of the following pairs that contains *less* sodium. (Note: In each pair, one item has at least twice as much sodium as the other.)

1. 3 oz. dried beef ____
 4 oz. corned beef ____
2. Typical fast food french fries (69.3 gm) ____
 Typical fast food cookies (63.4 gm) ____
3. 1 instant bouillon cube ____
 2 slices typical fast food pepperoni pizza ____
4. 1 tsp MSG ____
 1 oz typical potato chips ____
5. ½ can typical cream of mushroom soup ____
 1 pkg typical dried cream of mushroom soup ____
6. ½ cup fresh asparagus ____
 ½ cup canned asparagus ____
7. 1 oz. typical oatmeal, quick or old fashioned ____
 1 packet typical instant oats ____
8. Loin of pork complete frozen dinner ____
 2 capfuls typical antacid ____
9. ½ cup vanilla pudding (homemade) ____
 ½ cup vanilla pudding (from mix) ____

(Answers appear on page 195)

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March 1983 Morbidity Report

Disease	Mar. 1983 Total	1983 to Date	1982 to Date	Most Mar. Cases Reported From These Counties
Amebiasis	7	14	27	Jefferson
Brucellosis	0	0	1	
Chickenpox	1194	2847	3140	Scattered
Campylobacter	12	44	50	Johnson, Dickinson
Cytomegalovirus	2	6	9	Johnson
Eaton's Agent infection	20	85	63	Johnson, Jackson, Des Moines
Encephalitis, viral	6	12	6	Scattered
Erythema infectiosum	14	24	90	Bremer, Buena Vista
Gastroenteritis (GIV)	1918	5960	5287	Scattered
Giardiasis	11	44	27	Johnson, Polk
Hepatitis, A	4	9	23	Polk
Hepatitis, B	5	13	21	Scattered
Hepatitis, Non A-B	7	10	4	Davis, Linn
Hepatitis type unspecified	0	3	6	
Herpes Simplex	63	206	78	Scattered
Herpes Zoster	2	5	4	Black Hawk, Pottawattamie
Histoplasmosis	5	8	8	Polk
Infectious mononucleosis	19	77	80	Polk, Linn, Marshall
Influenza, lab confirmed	79	116	9	Scattered
Influenza-like illness (URI)	6741	18678	16997	Scattered
Legionellosis	0	1	6	
Malaria	1	2	1	Clinton
Meningitis				
aseptic	8	20	6	Scattered
bacterial	10	38	40	Polk
meningococcal	2	6	4	Boone, Grundy
Mumps	3	29	15	Cerro Gordo, Mitchell, Pocahontas
Pertussis	0	2	0	
Rabies in animals	17	50	94	Hardin, Linn
Reye Syndrome	0	0	1	
Rubella (German measles)	0	0	0	
Measles	0	0	0	
Salmonellosis	9	34	69	Story
Shigellosis	2	9	13	Polk
Toxic Shock Syndrome	0	3	5	
Tuberculosis				
total ill	7	23	25	Scott
bact. pos.	4	17	18	Scattered
Venereal diseases:				
Gonorrhea	352	1026	1104	Scattered
Syphilis	2	4	7	Johnson, Hamilton

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Adenovirus — 1, Davis, 1, Dubuque, 2, Johnson, 2, Linn, 3, Polk, 1, Winneshiek; Kawasaki — 1, Scott, 1, Story; Echovirus — 1, Lee; Coxsackie — 1, Wapello.

STATE DEPARTMENT/ PUBLIC HEALTH

(Continued from page 192)

The 1980 Joint National Committee on the Detection, Evaluation, and Treatment of High Blood Pressure recommends that physicians try weight and sodium control before prescribing drug treatment for patients with uncomplicated stratum I or "mild" high blood pressure (90-104 mm Hg diastolic). When dietary management is successful, it should remain the treatment of choice. The panel also recommends that these measures be used in combination with drug treatment for all other hypertensives.

Cutting down on salt and losing weight are not easy changes for people to make. The National High Blood Pressure Education Program Coordinating Committee suggests that when possible, physicians refer hypertensive patients to dietitians for specifics on which foods to eat and which to avoid and for help in changing long-term eating behaviors.

Although busy practitioners may not have time to become nutrition experts, many do want a better understanding of a subject their patients ask about every day. The National High Blood Pressure Education Program has free physician and patient education materials that can help make dietary changes succeed. For physicians, *Critical Patient Behaviors in the Dietary Management of HBP* provides a practical,

(Continued on page 195)

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STATE DEPARTMENT/ PUBLIC HEALTH

(Continued from page 194)

10-step approach to diet counseling. *Questions About Weight, Salt, and HBP* is a patient education pamphlet with realistic hints for changing eating habits. Physicians can obtain these publications by writing to the High Blood Pressure Information Center, Box MD, 120/80 National Institutes of Health, Bethesda, MD 20205.

ANSWERS TO SODIUM IQ ON PAGE 192

ANSWERS (IN MILLIGRAMS OF SODIUM)

1. 3 oz. dried beef = 3657 mg
 3 oz. corned beef = 804 mg
2. Typical fast food french fries = 115 mg
 Typical fast food cookies = 330 mg
3. 1 instant bouillon cube = 960 mg
 2 slices typical fast food pepperoni pizza = 370 mg
4. 1 tsp. MSG = 500 mg
 1 oz. typical potato chips = 191 mg
5. ½ can undiluted typical cream of mushroom soup = 1210 mg
 1 pkg. typical dried cream of mushroom soup = 527 mg
6. ½ cup fresh asparagus = 2 mg
 ½ cup canned asparagus = 271 mg
7. 1 oz. typical oatmeal or quick old fashioned = 1 mg
 1 pkg. typical instant oatmeal = 252 mg
8. Loin of pork (complete) frozen dinner = 710 mg
 2 capfuls typical antacid = 156 mg
9. ½ cup vanilla pudding (homemade) = 83 mg
 ½ cup vanilla pudding (from mix) = 200 mg

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ABOUT IOWA PHYSICIANS

Dr. Kim Peterson recently was named program director of the Family Medical Center in Davenport, and **Dr. Stephen Sidwell,** associate director. Both are Davenport physicians. . . . **Dr. David E. Phillips** recently joined Linn County Orthopedists, P.C. in Cedar Rapids. Dr. Phillips served his internal medicine residency at Loyola University in Chicago and recently completed a fellowship program in the subspecialty of rheumatology at Indiana University School of Medicine.

Michael W. Hill, Marshalltown, recently was initiated into the American College of Surgeons. Dr. Hill is a fellow of the American Academy of Otolaryngology and Head and Neck Surgery and also an associate fellow of the American Association of Clinical Immunology and Allergy. His is associated with the Wolfe Clinic. . . . New officers of the Hamilton County Medical Society are — **Dr. E. Reveiz,** president; **Dr. K. Y. Lee,** vice president; and **Dr. J. X. Latella,** secretary-treasurer. All are Webster City physicians.

Dr. Marc H. Sink will join the Muscatine Health Center in July. Dr. Sink received the M.D. degree at the U. of I. College of Medicine and is completing his final year of residency in internal medicine at Blodgett and St. Mary's Hospital in Grand Rapids, Michigan. . . . **Dr. David McCoy** has rejoined the staff at the Carroll Medical Center. Dr. McCoy returns to Carroll from the Beaver Medical Clinic in Redlands, California, where he has been in private practice since 1976. He first joined the Carroll Medical Center in 1970. . . . **Dr. Dallas O. Minchin,** Council Bluffs, recently was elected

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chairman of the Iowa Commission on Substance Abuse. . . . **Dr. Frederick J. Lohr** recently was named president of the medical staff at the Marian Health Center in Sioux City. Other officers are — **Dr. John A. Wolpert,** president-elect and **Dr. R. Bruce Bedell,** secretary-treasurer. All are Sioux City physicians. . . . **Dr. Michael J. Kitchell,** Ames, was the guest speaker at a recent meeting of the Dallas-Guthrie County Medical Society. . . . **Dr. Robert F. Breedlove** has joined **Drs. Marvin H. Dubansky; Marshall Flapan; Sinesio Misol,** and **Joshua Kimelman** in the practice of orthopedic surgery in Des Moines. Dr. Breedlove received the M.D. degree at Southern Illinois School of Medicine in Springfield, Illinois and served his residency at the University of Missouri Medical Center in Columbia, Missouri.

Dr. Margaret S. Emmons, Clinton, recently accepted an invitation from the dean of the University of Ghana Medical School to conduct CPR training in Ghana, Africa. Dr. Emmons will present lectures and seminars on anesthe-

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siology. . . . **Dr. Eduardo Reveiz** recently was reelected chief of staff of the Hamilton County Medical Society. Other officers are — **Dr. Kie Yun Lee,** vice president; and **Dr. Joseph X. Latella,** secretary-treasurer. All are Webster City physicians. . . . **Dr. Patrick Hsu** recently began the private practice of obstetrics and gynecology in Bloomfield. Dr. Hsu received his medical education and completed his residency at the University of Toronto, Ontario, Canada. . . . **Dr. Thomas C. Graham,** Iowa Falls, recently was honored by the Hardin County Board of Health and the Hardin County Community Nursing Service for his longtime tenure as chairman of the Hardin County Board of Health. **Dr. Robert W. Dunlay,** Iowa Falls, will succeed Dr. Graham as chairman of the HCBH. . . . **Dr. David G. Paulsrud,** Sioux City, recently was awarded the Distinguished Community Leadership Award by the AID Center. The award is presented each year to a volunteer who has provided leadership in the field of human services. Dr. Paulsrud was cited for his aftercare of persons who have completed alcoholic treatment and his active role in wholistic health care. He is president-elect of St. Luke's medical staff; secretary of the Wholistic Health Center Board; past chairman of the Woodbury County Medical Society; past president of the Iowa Orthopedic Society and a fellow in the American College of Surgeons.

DEATH

Dr. Thomas W. McMeans, 75, retired Davenport physician, died April 7 at St. Luke's Hospital in Davenport. Dr. McMeans received the M.D. degree at the U. of I. College of Medicine. A Davenport physician for 50 years, he was a World War II veteran and life member of the Iowa Medical Society.



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In The Public Interest

Hospital Use Stats Drop Down

THE AMBITIOUS EFFORTS to reduce inpatient use of hospitals got a statistical "shot-in-the-arm" in a recent public comment from D. Eugene Sibery, president of Blue Cross and Blue Shield of Iowa.

Widespread Iowa media attention was given to Sibery's March disclosure that inpatient use of hospitals had declined 11.8% since the Blues began requiring utilization review in January 1981. Sibery gave much credit for this performance to the excellent cooperation of the physicians and the hospitals — and their professional associations.

Findings released by the Blues showed 1982 inpatient utilization at 774 days per 1,000 subscribers under age 65 in the 73 counties served by the Des Moines-based Blue Cross Plan. This compares favorably with 844 at the end of 1981 and 878 at the close of 1980.

The Iowa rate of inpatient use was reported as having dropped considerably in relation to the national figures, resting 7.2% above the countrywide average figure of 722 days per 1,000 subscribers.

The excessive inpatient use of hospitals is said to be having the most impact on health care costs by the various groups that are studying the subject. It was a point of emphasis with the Governor's Commission on Health Care Costs.

Why is inpatient hospital use dropping?

In addition to concerted efforts by the provider groups, Sibery says it is the result of changes in benefit design for many of the Plans' major customers. It has also occurred with the much expanded use of outpatient services.

What about the unit costs of health care, though?

Sibery acknowledged the dilemma here. As there has been a drop in inpatient use, unit costs for services, such as the average charge for a hospital day, have gone up. The average charge for an Iowa hospital day was reported as having increased 40.7% in the same two-year period when utilization was dropping 11.8%. In 1982 Iowa hospital costs jumped 18% compared to a national average of about 11.5%. Moderation is expected here, says Sibery, when the hospital prospective payment system goes into effect in October of this year. The incentive for hospitals to become efficient is abundantly apparent under these forthcoming procedures.

The additional points were cited by Sibery in his comments to the press: (1) hospital admissions in Iowa dropped 10.8% from 1980 to 1982 (132 per 1,000 subscribers compared to 115 nationally, a 14% difference); (2) outpatient utilization increased markedly during this same period; (3) the average length of hospital stay decreased by 1.2% in the last two years; the Iowa length of stay is now at 5.86 days, below the national rate of 6.3 days.

Much of what is contained in this statistical information from the Blues is heartening. It demonstrates a determined bid to address the concerns so prominent in health care today. Sibery says the trend factors used to compute future Blue Cross and Blue Shield rates will include the drop in inpatient use. However, he adds, "until unit costs are brought under control, rate increases will remain in double digits."

As cognizant as everyone is about the need for cost effectiveness, Iowa medicine still presses its repetitious theme, namely, don't press it to the detriment of quality and basic human need.

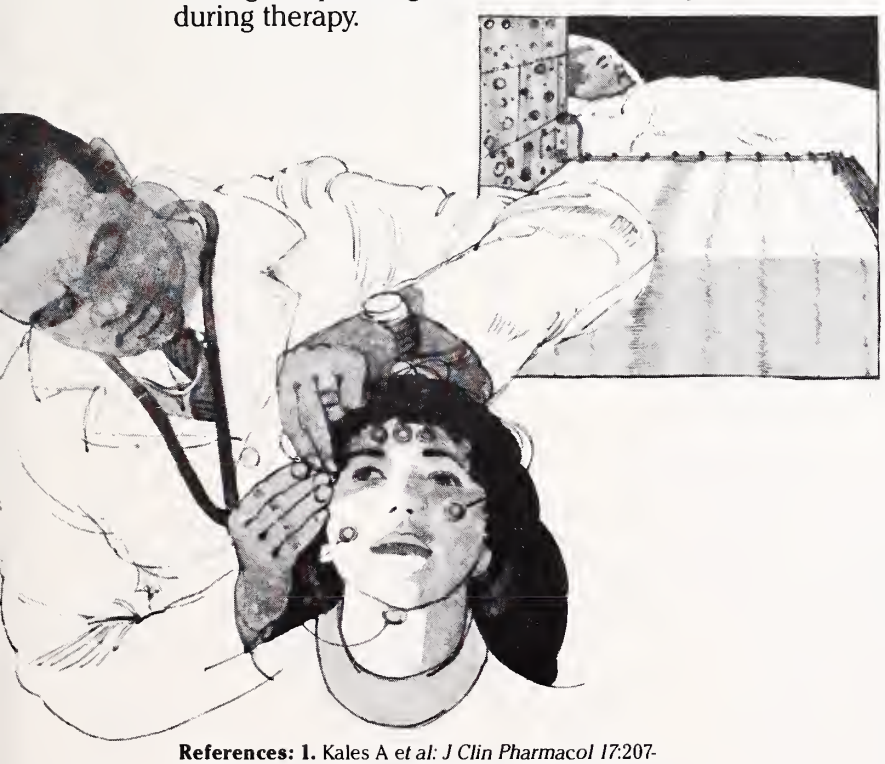
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JOURNAL OF THE IOWA MEDICAL SOCIETY

JUNE 1983/VOLUME 73 NUMBER 6

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ABOUT THE COVER — The 1983 IMS House of Delegates got "the important word" recently from various spokesmen. Some are on this month's cover. Top, from left, AMA President-elect Frank Jirka, M.D.; 1982-83 IMS President Hormoz Rassekh, M.D.; Blue Shield Board Chairman E. E. Linder, M.D. Below, from left, IMS Auxiliary President Jan Donahue; Blue Cross/Blue Shield President Eugene Sibery, and IFMC President Robert A. Pfaff, M.D. See page 211 for House of Delegates remarks made by the IMS president and president-elect. The July IMS JOURNAL will have a summary of House actions.

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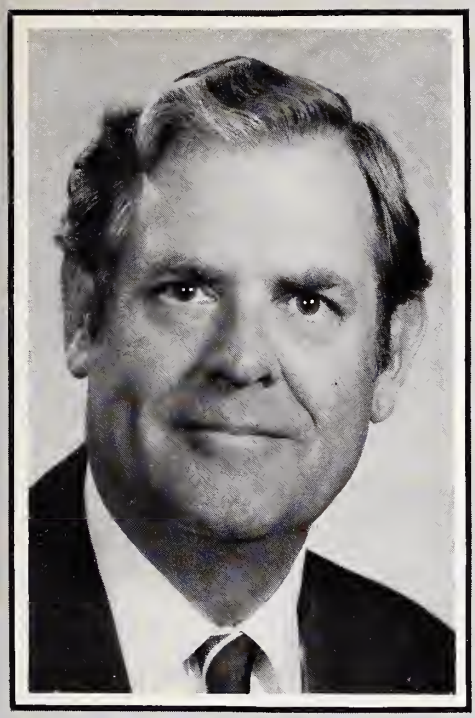
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PRESIDENT'S PRIVILEGE

OVER THE NEXT 12 months it's my job to fill this space with words that are informative, even provocative. Medical care delivery is my assigned topic; Iowa medical care delivery in particular.

I'll try to cover issues that are important and timely. And, in doing so, I hope to comment on specific incidents of an Iowa origin.

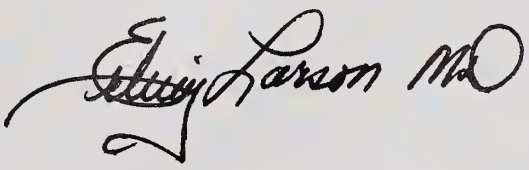
My request of you is straightforward: Take the minute or two needed to read what's here. Do it at least a month or two. Then if you aren't getting anything of substance, decide for yourself about continuing. If you have a reaction to or comment on any topic, let us hear from you.

A recent food-for-thought situation brought Iowa medicine onto the national news scene. This involved the University of Iowa retaining the anonymity of a potential bone marrow donor. The circumstances are quite well-known. Seemingly, the case is concluded legally. Certainly the questions it raises deserve comtemplation by Iowa physicians and others.

Rightfully, the University of Iowa maintains an interdisciplinary committee to address ethical questions associated with research where human subjects are involved. This committee evaluated these recent events in some depth and reaffirmed a policy respecting the right of the individual to privacy.

My wish here is not to detail this case again so much as it is to suggest that our scientific progress with transplants, etc., is going to require, even demand, ongoing examination of the ethical and moral implications represented.

As physicians, we must be willing to discuss these matters openly and honestly — acknowledging that varying points of view exist. Thoughtful consideration is appropriate all across our medical ranks — even though many of us may never have a direct involvement. The subject is a deep one. It can not be avoided.



Erling Larson, M.D.
President



Retiring IMS President Hormoz Rassekh, M.D., Council Bluffs, left, places the Society's presidential medallion on his successor, Erling Larson, M.D., Davenport.

Practice As If You Were the Patient

HORMOZ RASSEKH, M.D.
Council Bluffs, Iowa

Technology and scientific advances have brought patient care to an unprecedented point in history. Nonetheless, the personal touch of the physician is very nearly of equal importance. We need to talk with — not at — our patients, urged Dr. Rassekh in concluding presidential remarks to the 1983 IMS House of Delegates.

TWELVE MONTHS AGO — less two days — I stood in this same spot and addressed the House of Delegates. I expressed thanks for the honor to serve as president of the Iowa Medical Society, and I accepted the position with a mixture of great humility, positive expectations and some anxiety. I suspected then that the coming weeks would be filled with challenges and opportunities; with successes — and failures; with frustrations and delights.

I was not wrong!

During the past year, the cost of health care has remained as the *number one* issue confronting the health care delivery system, and the public it serves. Already today you have received numerous reports concerning this complex and perplexing subject, and I know there will be considerable discussion and debate concerning this problem — and many related to it — during the next day and a half.

(Please turn to page 212)

These remarks were presented by Iowa Medical Society President Hormoz Rassekh, M.D., on April 30, 1983, at the Annual Meeting of the House of Delegates. Dr. Rassekh concluded his term of office May 1, 1983.

New Medical Era Needs Able Leaders

ERLING LARSON, M.D.
Davenport, Iowa

Participation by young physicians, and by women physicians, is most important, says the new IMS president, in our changing medical care environment. Never before, he concludes has a united medical community been more urgently needed.

THANK YOU for giving me the opportunity to help lead our Iowa Medical Society during a very difficult period in its existence. Noting all the problems that are present and all the storm warnings that are on the horizon, I can only hope to succeed if I have your prayers, your help, and your sympathetic understanding. I feel like the comment made to Ronald Reagan shortly after his election to the presidency . . . *"Congratulations, Mr. Reagan, you have just been elected captain of the Titanic."*

Noted editorialist Harry Schwartz, at a national leadership conference about 10 years ago, said, "Medicine would not have all the trouble it seems to have if physicians would just give the public what they want . . . and

(Please turn to page 213)

These inaugural remarks were delivered by Dr. Larson on May 1, 1983, following his installation as president of the Iowa Medical Society.

PRACTICE AS IF YOU WERE THE PATIENT

(Continued from page 211)

Suffice it for me to acknowledge what we all know: *the health care system in this country is the greatest in the world.* We can do more for our patients today than our medical colleagues would have dreamed possible just 50- or even 25-years ago.

Because of the tremendous advances in medicine, we have witnessed a truly remarkable increase in the longevity of life; in the quality of life, and in the productivity of our citizens.

As physicians we must be — and certainly, we are — concerned about health care costs. Even so, we cannot justify support for cost containment programs that jeopardize the quality of care, or the accessibility to such care, or the research that is necessary to assure continuing progress in medicine.

The Iowa Medical Society has been firm in espousing this position to officials of government, to representatives of business and labor, to third-party payors and to the public. We will continue to give quality, accessibility and research the highest of priorities.

Another primary mission — and one I will comment on for a few moments — involves the first and most important of the *Principles of Medical Ethics: A physician shall be dedicated to providing competent medical service with respect and human dignity.*

In an address before the American Medical Association several years ago, an eminent theologian made this comment: "Medicine is more than a profession. Medicine has a soul, and it involves not only the application of knowledge and the exercise of skill, but also facing a human situation. Medicine is not for those to whom career is more precious than humanity; or for those who value comfort and serenity above service to others."

There is a concern that as advances in medical science and technology increase, the public perceives that the physician's human contact and relationship with the patient decreases. Surely, new scientific and technological discoveries are vital in helping physicians become more skillful and effective in treating patients; but, we should not let science and technology de-personalize our relations with the individuals we are trying to help.

As stated in an article in the *New York Times* magazine, ". . . the increase in hardware has made doctors 'machine jockeys' and technicians, as well as comforters. The very changes that have enabled physicians to be so much more effective . . . are the ones that may make them seem remote and cold."

A year ago, Norman Cousins addressed the graduates of George Washington University in Washington, D.C. He explained that during the past 4 years, he had talked with hundreds of patients suffering from serious illness. He doubted it was just a coincidence that so many of the patients who seemed to be getting the most out of their treatment were those who said they had been inspired by their physician.

Mr. Cousins stated "there are qualities beyond pure medical competence that patients need and look for in their physicians. They want reassurance. They want to be looked after and not just looked over. They want to be listened to."

"Patients," he said, "are a vast collection of emotional needs. Yes, counselors, family and clergy are very helpful in this connection, but the patient turns most of all, and first of all, to the physician. It is the physician's station that has most to offer in terms of those emotional needs. The physician represents restoration. The physician holds the lifeline. The physician's words and his caring — not just his prescriptions — are attached to that lifeline."

Indeed, I underscore the importance of maintaining the "personal touch" in medicine.

We must remember that the science of medicine works best when it is combined with the art of medicine . . . and our magnificent technology should be used as the servant of our art.

As physicians, we need to talk with — not at — our patients.

In short, we should practice medicine as we would like to have it practiced, were we the patient.

In another 24 hours, my term as president of the Iowa Medical Society will end, and this will be my last formal presentation to you. So, before I close today I want to present a few commendations.

I commend my fellow officers on the Board of Trustees, the Judicial Council and the Executive Council for their wise counsel, excellent

cooperation and genuine friendship during the past year.

I commend the large number of physicians who serve on committees of the Society, and who worked so tirelessly in developing and implementing many important projects in the interest of both the profession and the public.

I commend Eldon Huston and the entire staff at the headquarters office for their efforts in behalf of and dedication to the medical profession.

And, finally, I commend the great majority of Iowa physicians — some 90% — who have paid their dues to this outstanding organization. With this kind of support and involvement, organized medicine in Iowa truly does speak with one voice, and there is tangible evidence of unity of purpose and philosophy.

I want you to know that being president of the Iowa Medical Society has been one of the most rewarding and enriching experiences of my life. I have received far more than I have given. I will be eternally grateful to you for giving me the privilege to serve.

NEW MEDICAL ERA NEEDS ABLE LEADERS

(Continued from page 211)

what they want is immortality with no pain and no fee."

Since we can't do that, the times ahead will be difficult, and as the "new" economic plans for medical care unfold, we will see a different medical world. We will see physician against physician, hospital against hospital, and hospital against physician. By 1986, self-insured industrial plans will equal all of the nation's Blue Cross/Blue Shield programs. Hospital demand for inpatient services will decrease despite a growing elderly population. A progressively sicker and more expensive hospital mix will be present and this, combined with prospective payments and other similar programs, may lead to the closure of many hospitals.

As I see the rush into "cost-containment programs" by those same groups that caused most of our problems, I am always reminded of a quote by Samuel Taylor Coleridge, "Every reform, however necessary, will by weak minds be carried to such excess that it, itself, will need reforming."

What then becomes the proper role of the physician? Although we need to participate in business/labor/medicine coalitions, work with HPCI, cooperate with the Iowa Foundation for Medical Care, and assure that alternative health care systems are given a fair trial, our primary and overriding concern must be that we are the patient's advocate. The patient has every right to expect that we will demand and deliver quality care. Although cost is important, it can never take precedence over quality. Our hearts, our minds, and our integrity must belong to the patient alone. We must unqualifiedly represent the interest of the patient even if we must do battle with insurance companies, state and national governments, economically threatened hospitals, utilization review committees, and employers, whether large or small. We can work with, but we must never sell our souls to the "company store."

The dangers to American medicine have been great in the past, but those dangers tended to unite us. For the first time the dangers to the physicians and hospitals of this country are threatening to tear us apart. Never before has a united medical community been more urgently needed.

The physician population in the United States is changing radically. By 1990, 40% of all the physicians in the United States will have graduated in the 1980's; and for the first time, women physicians will make up over 30% of this new group. These new physicians must be welcomed into organized medicine, and their tremendous strengths and talents utilized.

As your new president, I assure you *every* committee I appoint will contain one or more women physicians, and young, as well as women, physicians will be encouraged and requested to assume leadership roles. I encourage you in your county societies to explore ways to develop participation by your younger members, not only in local medical society activities, but to encourage their election as delegates and alternate delegates to the IMS.

Medicine, as we know and love it, can survive only if we are our patients' foremost advocates, and we can perform that responsibility effectively only if we are united and strong.

Thank you and God bless you all!



QUESTIONS - ANSWERS

PAUL M. SEEBOHM, M.D.
Iowa City, Iowa

OUR IOWA CANDIDATE

Paul M. Seebohm, M.D., is a candidate for election in June to the AMA Council on Medical Education. Dr. Seebohm is well known in Iowa as executive associate dean of the University of Iowa College of Medicine and as past-president of the Iowa Medical Society. He is respected nationally as a medical educator. He comments here on the election and his reasons for running.

We are fortunate to have had Iowa physicians elected from time to time to important posts within the American Medical Association. Would you tell us what office you are seeking and when the election will occur?

I have been nominated by the AMA Board of Trustees to run for one of four open seats on the Council on Medical Education. The election will be held June 22 during the annual meeting of the AMA House of Delegates in Chicago.

How many physicians serve on the AMA Council on Medical Education? Are they mostly medical educators?

There are 11 members on the Council, plus an AMA staff physician who serves as secretary. One member must be a resident physician and one must be a practitioner who is a nonsalaried faculty member of a medical school.

Half of the current members are full time medical faculty, and the other half are medical practitioners who have clinical appointments on the faculty of the medical schools in their respective communities.

Are the members distributed pretty well geographically?

Not too well. The current Council members are principally from the Midwest and the South, with the most westernly members living in Dallas, Texas, and Wichita, Kansas. Two midwestern members are leaving the Council this year, and I am the only midwesterner among candidates running for election to the Council this year.

What are the main responsibilities of this AMA Council?

The principal functions of the AMA Council on Medical Education are:

1) to study and evaluate all aspects of medical education and recommend to the House of Delegates programs and policies that will assure an adequate and continuing supply of well-qualified physicians is available to meet the medical needs of the public.

2) to consider and recommend means by which the AMA may continue to provide leadership and direction to the inter-organizational bodies dealing with medical and allied health education.

3) to consider and recommend the means and methods whereby physicians and allied health professionals may be assisted to maintain their professional competence.

Win or lose in the election (and we'd prefer the former), just gaining nomination to such a Council is something of an accomplishment. Don't those wishing to run have to be reviewed and endorsed by the AMA Board of Trustees?

Candidates are recommended by state or specialty societies to the Council on Medical Education. The Council transmits its recommended nominees to the Board of Trustees and the Board of Trustees selects the final slate. This year, 10 candidates, including two incumbents, have been nominated for 4 seats.

(Please turn to page 217)



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CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS: Incidence greater than 1%. Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS). *Incidence 3% to 9%.

Incidence less than 1 in 100. Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses:* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

Causal relationship unknown. Gastrointestinal: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia. Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Dysmenorrhea: 400 mg every 4 hours as necessary.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

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Anxious patients improve in just a few days



And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility. Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules, knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

...that's one of the unique benefits of

Valium®

diazepam/Roche

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For a summary of product information, please turn the page.

ROCHE®

Valium® (diazepam/Roche) Ⓝ Tablets
Valrelease™ (diazepam/Roche) Ⓝ slow-release Capsules
Injectable Valium® (diazepam/Roche) Ⓝ

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> *Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood count liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 or 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V. depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

ROCHE®

QUESTIONS/ANSWERS

(Continued from page 214)

If any IMS member who reads this happens to know a physician serving the AMA House of Delegates, would you welcome their passing word of your candidacy and a request for support?

Developing name recognition is very important in AMA House of Delegates' politics, because of its constantly changing membership and the mix of its geographic and specialty origins. I certainly would be most grateful for any support IMS members might generate through personal contacts with members of the House of Delegates. Incidentally, a list of all delegates and alternates was published in the April 8, 1983, issue of JAMA.

Can you say what may be your main area of interest and/or activity if elected to the Council on Medical Education?

I feel strongly that medical education in the U.S. needs to "regroup." As Dean Eckstein said in the April IMS JOURNAL, "The medical education establishment in the eighties finds itself somewhat in the same position as an industry expanded to prosecute a war, after the peace treaty has been signed. With its wartime mission accomplished, the government that had taken it over to gain one objective now abandons it back to the marketplace."

The "crash" programs implemented in the '60's and '70's to correct the doctor shortage too often emphasized quantity to the neglect of quality. Now we must reverse the priority, which will not be easy when constriction is occurring in all of the traditional sources of financial support of medical education. The Statehouse, Washington, patient care reimbursement and philanthropy have not only stopped expanding support but are cutting back in many quarters to sub-sustenance levels. To further aggravate the plight of medical education, the level of the State of the Art of Medicine has never been more complex and scientifically sophisticated. "The physicians of tomorrow will have to know more and be more skillful than their predecessors, and as the marketplace fills up, more competitive to survive" (to again quote from Dean Eckstein's message).

This all translates into the need for the medical educational establishment to slim down and concentrate on the production of its first product — a high quality physician.

To make this conversion, medical education will need a lot of help from the medical profession in general and the AMA in particular. As President Reagan's "New Federalism" is implemented, it may be necessary for some of the medical education lobbying resources concentrated in Washington to be decentralized to the statehouses. As a member of the Council on Medical Education, I would expect to address this problem and hopefully play a role in developing a new policy in support of the needs of medical education appropriate to our times.

Secondly, but not unrelated to the first, I would like to see the AMA develop a new initiative toward mobilizing the practicing profession into the mainstream of medical education, or if you like, insinuating medical education into the mainstream of medical practice. On any given day there are almost 100,000 medical students and residents in clinical settings, a ratio of one trainee to 4 or 5 practicing physicians. With the virtual extermination of the charity hospital, clinical medical education and the private practice of medicine are already intertwined. However, I am not sure most of the patients, private physicians and students are prepared for such a relationship.

To interpose a resident or student between a physician and his patient takes a great deal of skill if (1) the trainee is to have a learning experience, (2) the physician is to maintain a personal and identifiable role in the care of the patient, and (3) the rights and dignity of the patient are to be preserved. But this is what clinical teaching is all about. And whether it is the full time clinical practice of the faculty at University Hospitals or part-time teaching as a preceptor in a solo practice, the same level of propriety and finesse are needed. Such a system is fragile and highly dependent on cooperation, good taste, and, most of all, on dedication by the physician to make it work.

I would expect the Council on Medical Education to address this impact of medical education on medical practice and the reciprocal effect of medical practice on medical education, putting the leadership power of the AMA to work in the mobilization and education of the profession to continue in greater force than ever its role in medical education.

THINGS YOU SHOULD KNOW

IMS BOARD OFFICERS

Newly chosen as chairman of the IMS board of trustees is Emmett Mathiasen, M.D., Council Bluffs surgeon; selected IMS secretary-treasurer for 1983/84 is George Baker, M.D., Iowa City. Dennis Walter, M.D., Des Moines, begins a 3-year term as an IMS trustee; another new board member is Bruce Trimble, M.D., Mason City, serving as vice-president. Other board members are President Erling Larson, M.D., Davenport; John Tyrrell, M.D., Manchester, president-elect, and Hormoz Rassekh, M.D., Council Bluffs, immediate past-president.

SHIELD TRANSITION

The new Iowa law requiring a two-thirds subscriber majority on the Blue Shield board of directors will phase in between now and 8/1/85. A simple majority of subscriber directors is required by 8/1/84. To preserve provider input the Blue Shield executive committee has approved a resolution which calls for maintenance of a positive relation with Iowa physicians. Out of the resolution is anticipated the formation of an advisory committee of physicians -- with its membership to be determined in concert with the IMS and Iowa Society of Osteopathic Physicians and Surgeons.

DATA BODY FORMING

The State Health Data Commission, authorized in 1983 legislation, is being formed. The commissioners of insurance, health and social services are members -- with, additionally, two legislators (Senator Edgar Holden, Davenport, and Representative JoAnn Zimmerman, Waukee) -- plus the chairman of the Health Policy Corporation of Iowa. The role of the SHDC is that of a clearinghouse to acquire, compile, correlate and disseminate data from health care providers and third-party programs.

CHIROPRACTIC BILL SIGNED

Despite urgings by many, including the IMS, that he veto, Governor Branstad signed into law May 1 legislation expanding the chiropractic practice act. The new law permits chiropractors to render broad care -- most everything except surgery and the prescription of drugs. The governor indicated he would watch closely development of the state rules needed to administer the law.

SCHOOL HEALTH

A four-fold Governor's Conference on Comprehensive School Health Education is set for October and November in Des Moines, Sioux City, Cedar Falls and Davenport. The IMS Auxiliary is a sponsor of the project along with the State Departments of Public Instruction and Health. There are a number of co-sponsors. The Conference goal is to broaden the awareness of health education and cite its importance in the school curriculum.

1983-84 IMS DIRECTORY

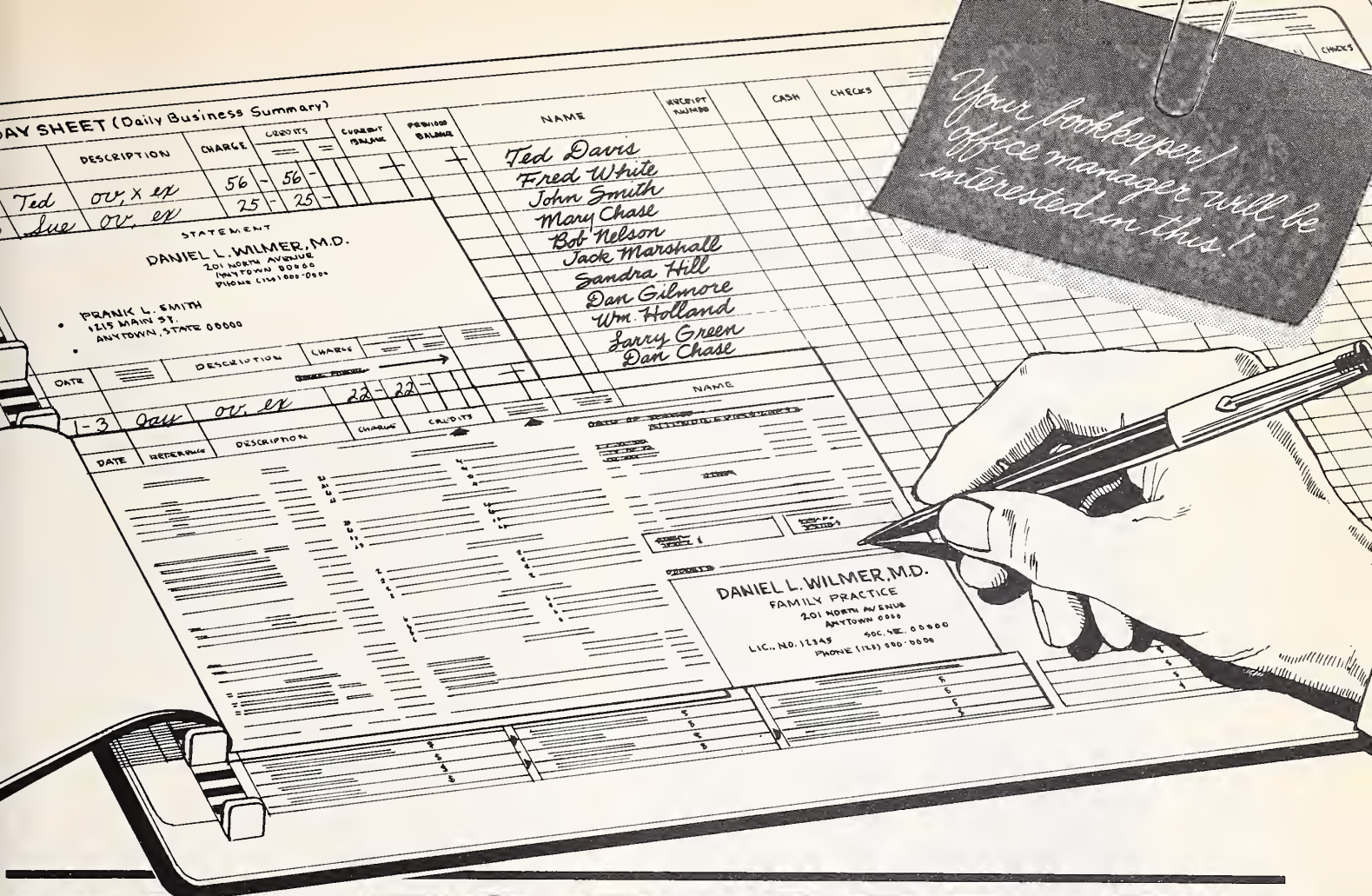
Preparation of a new IMS member directory is now in process. It will be issued later this fall and will list active members (alphabetically and geographically) for this current year. An invitation is being sent to members advising of the opportunity to have their offices or clinics further identified in the special yellow section.

ANABOLIC STEROID USE

Word of concern and inquiry has been received by the IMS from the Board of Medical Examiners regarding the possible use of anabolic steroids by weight lifters and wrestlers. The BME is requesting IMS comment on the prescription of these drugs by physicians for athletic purposes.

NEWBORN SCREENING

The Department of Health is drafting rules to cover screening of all newborns for PKU, hypothyroidism, galactosemia and maple syrup urine disease. The tests will be done at a central lab. Bids will be invited from labs wanting to do the test analysis.



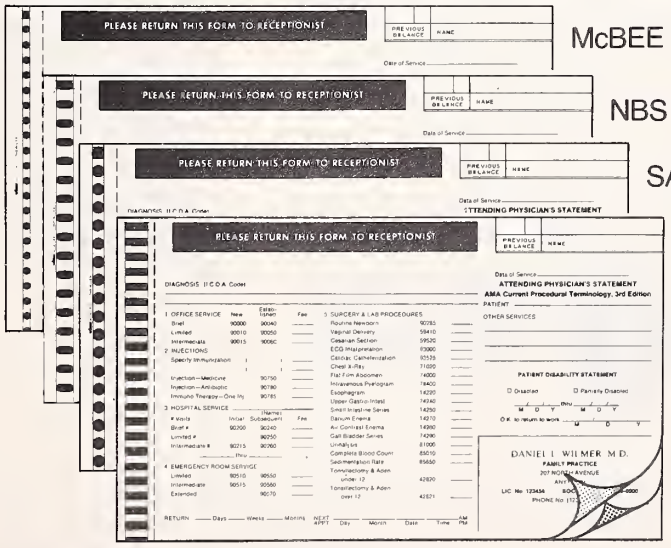
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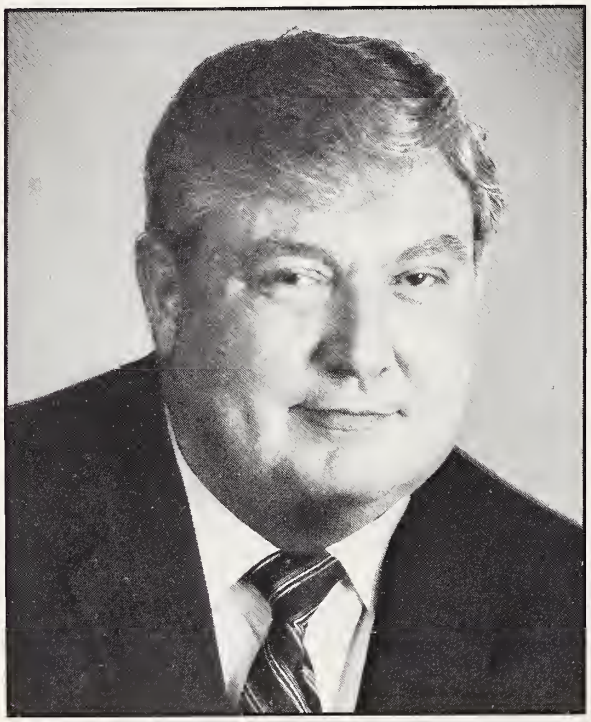
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D. Eugene Sibery
President & Chief Executive Officer
Blue Cross and Blue Shield of Iowa

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Consumers demand lower costs. Business and labor want more data and better benefit design. Physicians want to maintain the quality of patient care. And government mandates call for virtually immediate action.

Blue Cross and Blue Shield of Iowa remain true to our commitment to respond to the demands being placed upon Iowa's health care system.

We advocate evolutionary change. And because we do, you can expect us to continue to rely on, and continue to build upon, the sturdy foundations we already have with Iowa's providers of health care.

Over the years, we've developed positive and progressive relationships with Iowa's physicians. In the months and years to come, we'll be developing new ideas, new ways to meet your needs as well as those of our subscribers.

And, more than ever, we're going to need your cooperation, your understanding, your support. Because, *together,* we can respond to the challenges and changes facing Iowa's health care system...without sacrificing the quality of that care.

After all, we share the same concern: the good health and well-being of the people of Iowa.

Blue Cross
Blue Shield
of Iowa

Lightning Injuries: A Multisystem Trauma

MARY JEANNE KROB, M.D., and
ALBERT E. CRAM, M.D.
Iowa City, Iowa

Recovery from a lightning injury depends on many variables. What happens before hospital treatment is of great importance. This paper describes five cases and offers additional useful information on the injury possibilities to various organ systems.

LIGHTNING INJURIES are relatively uncommon in the United States, killing approximately 150 to 400 persons per year. Many victims of lightning do not succumb to the initial injury and the multisystemic nature of the injury presents a challenge to the treating physician. We recently have cared for 5 victims of lightning strike injury at the University of Iowa Hospitals. These patients illustrate many of the multisystemic effects of lightning injury.

CASE REPORT #1

A 29-year-old white male was struck by lightning while leaning against the side of his recreational vehicle camper. Witnesses stated he was struck directly in the face and his glasses were shattered and blown clear. Observers said the patient was totally unresponsive for an indeterminant period before several campers attempted CPR. Basic emergency medical technicians (EMT) arrived on the scene some 15 to 20 minutes post injury and instituted oral endotracheal intubation, intravenous fluids and cardiac monitoring.

The patient was transported to the University of Iowa Emergency Treatment Center by helicopter. Initial evaluation revealed the patient to be unresponsive and requiring respiratory support. The right pupil was sluggishly reactive and the left pupil was moderately dilated and unreactive. The tendon, corneal, Doll's eyes and gag reflexes were absent. Initially the patient was quadriparetic but after a 15-minute period of resuscitation he began to move all extremities to noxious stimuli. The patient had a partial thickness 1% body surface area burn just behind both ears and penetrating the skin to the level of the mastoids (Figure 1). Both tympanic membranes were perforated. The right cornea was edematous and the lens partially opaque. Both retinas were edematous. Capillary refill was normal after the first 15 minutes of stabilization in the Emergency Room. EKG showed a normal sinus pattern. Initial laboratory findings revealed PO_2 of 127 mmHg on 100% oxygen, PCO_2 of 46 mmHg and pH of 7.29. Hemoglobin was 17.3 gm/dl with a hematocrit of 51.5%. A computerized axial tomography (CAT) scan obtained shortly after admission was consistent with diffuse cerebral edema.

(Please turn to page 222)

The authors are associated with the Department of Surgery, University of Iowa College of Medicine, Iowa City, Iowa.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF JUNE 1983



Figure 1. Partial thickness burn over mastoid area.



Figure 3. Partial thickness burn of lower extremity.

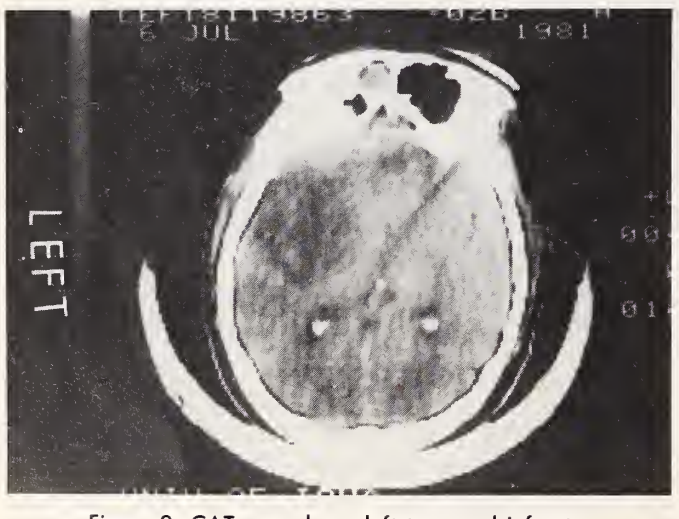


Figure 2. CAT scan shows left temporal infarct.

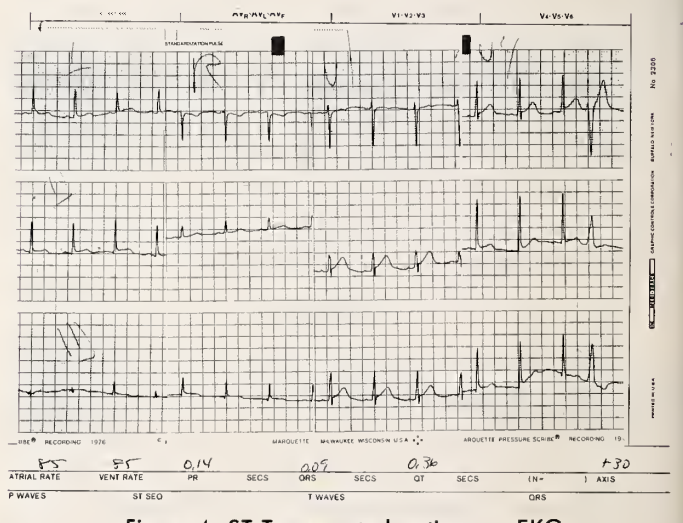


Figure 4. ST-T segment elevations on EKG.

The patient was treated in the Intensive Care Unit with steroids, barbiturate coma, hyperventilation and fluid restriction to maintain the intracranial pressure at less than 25 mmHg. Mild myoglobinuria was noted in the first few hours post injury but cleared rapidly. A CAT scan one week post accident was consistent with opacities in multiple sinuses and a left temporal infarct (Figure 2). The patient's hospital course was complicated by pneumonia and suppurative otitis media.

The patient was transferred to an extended care facility after 36 days. At that time he was responding to verbal stimuli, moved all extremities spontaneously but was purposeful only on the left. Corneal and Doll's eye reflexes were present as were early bilateral cataracts. The burn injuries were well healed.

One year after the injury the patient was walking independently, mentally appropriate and speaking with only mild aphasia. A full recovery was anticipated. *(Please turn to page 223)*

OFTEN INSEPARABLE: PAIN AND ANXIETY

A pathologic partnership one sees every day

Pain—triggering anxiety—which accentuates the perception of pain...together they're worse than either alone. And since they're usually both present in musculoskeletal disorders, the best therapy is often a combination of analgesic and anxiolytic agents. Equagesic®-M combines the pain relief of aspirin with the tension-reducing properties of meprobamate—because together they're better than either alone.

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(BRIEF SUMMARY)
DESCRIPTION: Each tablet contains 200 mg meprobamate and 325 mg aspirin.
INDICATIONS: Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated in these situations relief of pain is somewhat greater than with aspirin alone. Effectiveness in long-term use, i.e. over 4 months, has not been assessed by systematic clinical studies. Physicians should periodically reassess usefulness of drug for individual patients.
CONTRAINDICATIONS: ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds. MEPROBAMATE: Acute intermittent porphyria; allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.
WARNINGS: ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.
MEPROBAMATE: DRUG DEPENDENCE: Physical and psychological dependence, and abuse have occurred.
Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12-to-48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.
POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.
ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.
USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.
Meprobamate passes the placental barrier. It is present both in umbilical cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.
USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic®-M is not recommended for patients 12 years of age and under.
PRECAUTIONS: ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.
MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney; to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.
ADVERSE REACTIONS: ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.
MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.
GI: Nausea, vomiting, diarrhea.
CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.
ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.
HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.
OTHER: Exacerbation of porphyric symptoms.
DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.
OVERDOSAGE: Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 gram meprobamate and survival with as much as 40 gram.
BLOOD LEVELS:
0.5-2.0 mg percent represents usual blood-level range after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.
3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.
10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.
At levels greater than 20 mg percent, more fatalities than survivals can be expected.
Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.
In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration.
Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.
HOW SUPPLIED: Bottles of 50 scored tablets.

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CASE REPORT #2

A 46-year-old white male was struck by lightning while jogging. Observers who witnessed the accident were athletic trainers with CPR experience. On initial examination within 2 minutes of the injury they found the patient comatose with no spontaneous respirations. They were unable to detect a pulse. CPR was begun and transfer was made to the University of Iowa Emergency Treatment Center, approximately 2 blocks from the site of injury.

The patient was intubated, intravenous fluids were begun, and cardiac monitoring was carried out. The pupils were reactive, tonically deviated upwards and Doll's eyes reflexes were not present. The right cornea had fine diffuse opacities. The lower extremities were flaccid while the upper extremities exhibited decorticate positioning. The patient had a 4% body surface area partial thickness burn on the face, chest, abdomen and left leg (Figure 3). The right tympanic membrane was perforated. Other physical findings were unremarkable. Initial blood gases revealed a PO_2 of 115 mmHg on 100% O_2, PCO_2 of 41 mmHg and pH of 6.96. ST-T segment elevations were noted on the EKG (Figure 4). CAT scan showed mild to moderate edema. Intracranial pressure was monitored and the patient received steroids and hyperventilation initially to control intracranial pressure at or below 25 mmHg. He required ventilator support for three days.

The patient gradually became responsive and had a slow return of cognitive function. He remained amnestic for the event. He exhibited truncal ataxia which was felt to be both central and peripheral in origin. He responded albeit slowly to physical therapy and was discharged 21 days after the accident.

Evaluation 18 months after the injury found the patient's truncal ataxia improving. He was jogging 5 miles per day. He had resumed his professional duties.

CASE REPORT #3

A 34-year-old white male was struck by lightning while standing in a puddle of water. He suffered an immediate cardiopulmonary arrest and CPR was initiated by bystanders. Fifteen minutes post injury he was in an emergency room where ventricular fibrillation was noted and he was cardioverted. He then was breathing spontaneously, had unequal pupils and decerebrate posturing. The victim was transferred to the University of Iowa Hospitals. Nine hours after the injury the patient's vital signs were stable (BP 140/60; P 80; R 18). He had decerebrate posturing. The right pupil was more reactive than left. Corneal, deep tendon and gag reflexes were present. He had bilateral sixth cranial nerve paresis. Periorbital ecchymosis and subconjunctival hemorrhage of the right eye were present. Superficial burns involving 5% BSA were noted around neck, ankles, feet and abdomen. EKG was normal. Hemoglobin 17.8 g/dl, hematocrit 49.5%, pH 7.43, pCO_2 34 and pO_2 471 on 100% oxygen. Skull x-rays showed a right coronal linear nondisplaced fracture. CT scan was remarkable for an air fluid level in the right maxillary sinus and slitlike ventricles consistent with cerebral edema.

The patient was treated in the ICU with Mannitol, steroids, hyperventilation and barbiturate coma to maintain intracranial pressure less than 25 mmHg. A tracheostomy was performed on the tenth post injury day due to anticipated prolonged ventilator support. There was no neurological improvement. Bilateral pneumothorax and bilateral cavitary bronchopneumonia and empyema complicated the hospital course. Despite appropriate antibiotic therapy the patient died of sepsis on the 44th post injury day. Autopsy findings confirmed the pulmonary findings. Ischemic and anoxic damage to cerebral cortex, basal ganglia, hippocampus, brain stem and cerebellum were also demonstrated.

CASE REPORT #4

A 36-year-old white male was struck by lightning while standing next to a tree. There was no evidence of cardiorespiratory arrest but he was unconscious for an undetermined amount of time. He was admitted to the hospital three hours post injury. At that time he was alert, oriented and had no neurological deficits. Ophthalmic and otologic examinations were normal. There were no significant chest or abdominal injuries. A 2% superficial burn was noted on the anterior chest, abdomen and upper thigh. EKG, electrolytes, hemoglobin, hematocrit and urinalysis were normal. The patient was observed overnight and discharged the next morning. He has not exhibited any long lasting sequelae of his lightning injury.

(Please turn to page 224)

CASE REPORT #5

A 22-year-old white male was operating an amusement park when he was struck by a lightning bolt and thrown 10 feet. He was unconscious for 15 minutes but did not suffer a cardiorespiratory arrest. Initial evaluation at a local emergency room found the victim to be dysarthric and to have a left hemiparesis which lasted 3 to 4 hours. No other neurological deficits were noted. He was transferred to University of Iowa Hospitals 10 hours after the injury. Eye, ear, chest, abdominal and neurological examinations were normal. He had no cutaneous burns. Electrocardiogram showed a sinus arrhythmia. Electrolytes, CBC and urinalysis all were normal. The victim was observed for the next 48 hours without evidence of any sequelae of his lightning injury.

"Mandatory public CPR training would increase the likelihood that initial care by bystanders would eventually be available for most of the population."

MECHANISM OF INJURY

Lightning is a manifestation of the difference in electrical charge between the thunder clouds and the earth. The negative charge in the thunder cloud is attracted to the earth's positive charge and results in a lightning bolt. The current of the lightning bolt has been estimated to be between 12,000 to 20,000 amps. If a person is struck by a lightning bolt while in contact with the ground or a metal object, he becomes grounded and the current is dissipated.[1] "Flash-over" or "splash-over" is the other mechanism of electrical injury and probably occurs more frequently. In this case, lightning strikes a nearby object and jumps to the nearby victim. The resulting current flows around the outside of the victim's body.[4]

The extent of injury sustained is dependent upon many factors: the amperage of the current, duration of contact, position of the individual in relation to the grounding mechanism, entrance and exit sites, and the resistance of the tissue. Damage is usually apparent at the entrance and exit sites. The current will attempt to flow through the path of least resistance. The areas of highest resistance will result in greater damage if contact with the current is long enough. As current meets resistance, its energy is converted to heat which causes the tissue damage.

The resistance of most tissue is relatively constant with the exception of skin. Dry skin offers the greatest resistance and may be the most severely damaged. Wet skin offers little or no resistance and in lightning injury the effect produced at the entry and exit sites may be small compared to the magnitude of the other organ system injuries.

ORGAN SYSTEM INJURIES

Respiratory System — Significant current flow through the respiratory center and the medulla may result in loss of function of the respiratory center.[5] This loss of function may continue for variable periods of time depending upon the degree of injury. The end result without initiation of artificial ventilation is inevitably cardiac arrest. Three of our patients illustrate a case of transient respiratory center disruption. It is possible that many of the neurologic sequellae attributed to lightning strike injuries could be due to cerebral anoxia rather than the direct result of electrical current in neural tissue. Although exact time periods of anoxia are unknown in the first three patients, the time from injury to initiation of CPR was certainly much shorter in patient #2. The neurologic recovery in that patient has been much better and quicker than the patient in which CPR was not started for at least 7 to 10 minutes. There was irreversible damage sustained in the patient in whom CPR was not started until he was seen in the Emergency Room.

Cardiovascular System — Ventricular standstill is probably much more common in lightning strike injury than ventricular fibrillation because the entire myocardium is depolarized instantaneously.[7] Unless CPR is initiated early, death will ensue. Where cardiac standstill does not occur, EKG abnormalities are usually those of ischemic S-T segment elevation, T wave inversion and atrial and ventricular arrhythmias. These changes usually revert to normal.[1, 8] Peripheral vasoconstriction is commonly seen in the initial phase of the injury. If cardiac standstill is detected immediately after the lightning strike injury and treated appropriately, the outcome is more favorable as shown by two of the first three patients. When cardiac standstill does not occur, the outcome of these patients is uniformly good as shown

by the last 2 patients. The marked acidosis which may be present would seem to indicate prolonged hypoxia and/or lack of adequate peripheral perfusion.

Central Nervous System — A wide variety of neurologic abnormalities have been attributed to lightning injury. Usually there is an initial loss of consciousness which may be accompanied by flaccid paralysis and on occasion convulsions. Cerebral edema, subdural hemorrhage and subarachnoid hemorrhages are often seen. The initial flaccid paralysis usually involves the lower extremities only. This often resolves within hours after the injury if there is no underlying cerebral or spinal cord damage. Most patients report amnesia for the traumatic event and the subsequent hospitalization. Personality disorders and memory changes may also be present and were noted in our second patient.[1, 12]

Ocular System — Corneal injuries are the most common ocular findings in lightning strikes and generally consist of epithelial layer lesions and deep opacities that may require several weeks to resolve. Corneal ulcers have been reported. Cataract formation is another common finding. Retinal damage occurs less frequently but takes the form of chorioretinal atrophy, papilledema, hemorrhage and retinal detachment.[6, 10] The lids may have typical cutaneous burn injury. The first patient showed obvious ocular injury.

Otologic System — The most common otologic finding is tympanic membrane rupture. This is probably due to cylindrical shock wave from the axis of the lightning bolt. Tympanoplasty may be required although most injuries reportedly heal spontaneously. Chronic otitis media may result as a complication of this injury and was present in our first patient. Vestibular defects have also been reported. The exact etiologies of these defects have not been clearly elucidated. It has been suggested that there is disruption of the endolymphatic system at peripheral (i.e., cochlear vestibular) level or a central level injury.[4, 15, 16]

Skin — Cutaneous manifestations of lightning injury are minor compared to the effects on other organ systems. Injury to skin often consists only of a superficial erythema with a "splashed-on" or "feathery" appearance. Generally only small areas of skin are involved and skin grafting is rarely required.

Renal Complications — Myoglobinuria may be seen in victims of lightning injury.[17] Alkalinization of the urine and adequate diuresis should prevent any long-term renal defects.

SUMMARY

Recovery from a lightning strike injury is dependent upon a number of variables. The prehospital phase of care may be paramount in determining the outcome. Immediately following the injury, airway maintenance and ventilatory support are the two most critical factors determining long-term survival and recovery. Mandatory public CPR training would increase the likelihood that initial care by bystanders would eventually be available for most of the population. In victims who have suffered prolonged apnea, hypoxia, cardiac arrest or inadequate circulation, it is difficult to determine the cause of the neurological effects. They may be due to either the electrical current or to anoxic cerebral damage.

The use of steroids, judicious use of fluid and aggressive intracranial pressure monitoring and control should be begun immediately in all patients initially seen with cerebral injury. Renal damage secondary to myoglobinuria should never occur where adequate resuscitation has been carried out along with alkalinization of the urine. Ocular and otologic damage should be sought for and treated appropriately. Cutaneous manifestations of lightning strike injury seldom require more than topical antimicrobial burn treatment techniques. An aggressive multidisciplinary approach to lightning strike victims is necessary if these individuals are to return to a fully functional status. However, the primary limiting factor in the treatment of these patients would appear to be the availability of immediate post-injury cardiorespiratory support techniques.

REFERENCES

The references noted in this paper are available either from the authors or the JOURNAL OF THE IOWA MEDICAL SOCIETY.



COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

THE INIQUITY OF THE FATHERS UPON THE CHILDREN

PHYSICIANS AND CLERGY have a parallel mission in life. Ours is to rid the world of diseases; theirs is to rid the world of sin. Both professions have worked for centuries toward these goals and have yet to succeed totally. It seems when victory is at hand a new challenge presents itself. It appears certain both our professional services will be needed for many years into the future.

To illustrate our progress toward the elimination of disease, smallpox is regarded as a problem of the past. It seems, similarly, that poliomyelitis and measles are under control. It was believed that leprosy, that scourge of the Dark Ages, was under control. We must face the challenge of leprosy and other diseases continuing to spread despite our efforts. Many of our attempts are thwarted, however, by the unwise actions of our patients. In some instances, they may lack knowledge, or worse yet, they may lack a sense of social responsibility.

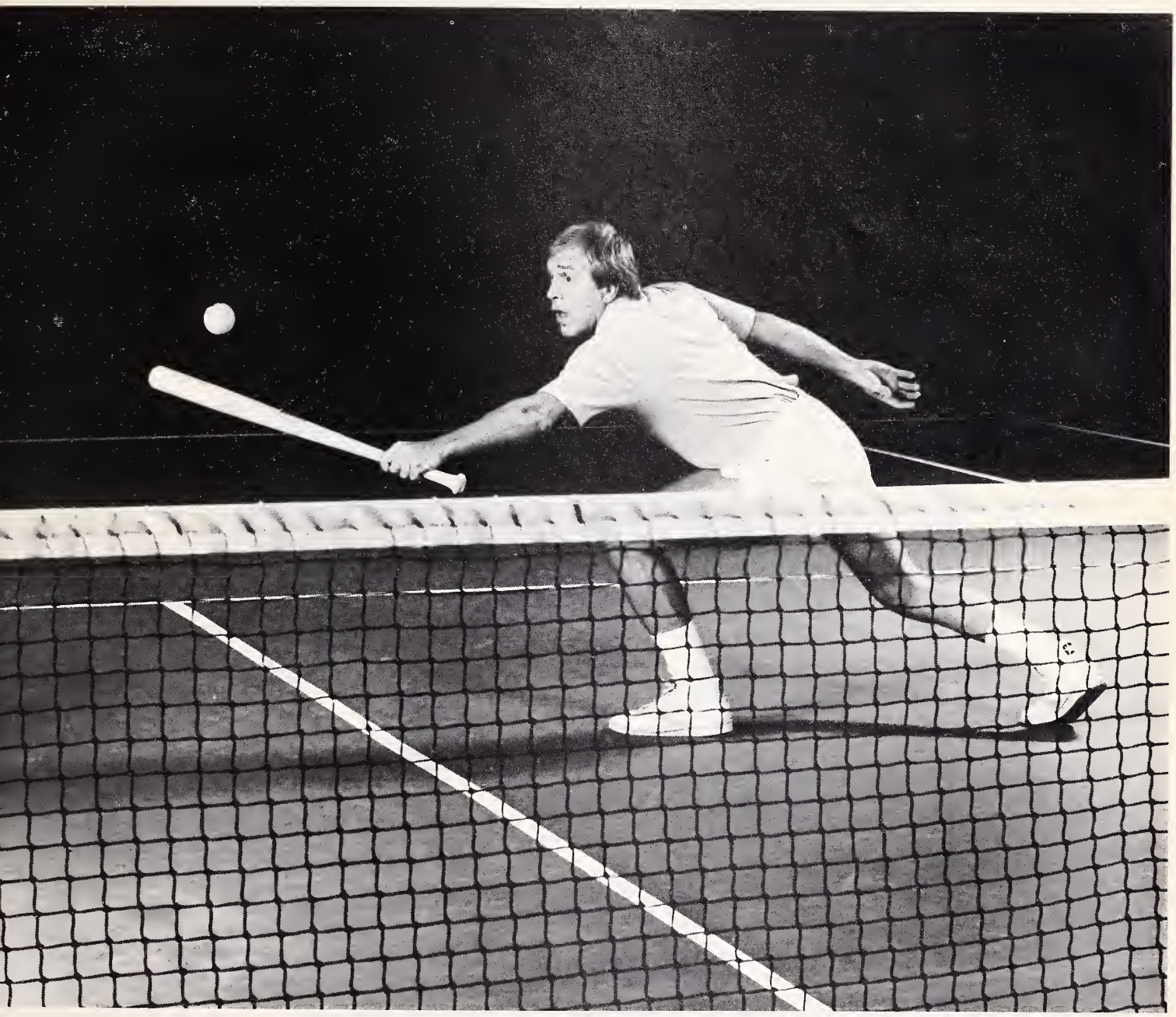
Some diseases seem to be resurging, and often in a more virulent form. The Federal Center for Disease Control reports an increase in the incidence of syphilis, hepatitis (type B), aseptic meningitis, and encephalitis. This problem is compounded by a widespread increase in the incidence of genital herpes.

We now face a new bizarre disease called acquired immune deficiency syndrome (AIDS). This lethal disease has a mortality rate approaching 40% in its devastating destruction of the victim's immune system. This mysterious disease first appeared in homosexuals, later in Haitian immigrants, and more recently in surgery patients and hemophiliacs receiving blood transfusions. Is a virus the cause? Strict screening of blood donors is and should be indicated. Cutter Laboratories, a large producer of blood plasma products, recently announced it will screen plasma donors to eliminate those in high risk groups for AIDS. Such screening procedures will seek to eliminate as donors male homosexuals, intravenous drug users, and recent residents of or visitors to Haiti. In this same concern for recipients of blood components, the National Hemophilia Foundation has asked all blood centers to initiate donor screening procedures to protect the approximate 15,000 hemophiliacs in the United States.

"We have a challenge. We cannot be complacent. Our profession can and will cope with new diseases. We must seek to prevent any resurgence of the scourges of the past."

Further surveillance is indicated, and further research is in process to determine the cause as well as how to prevent this devastating condition. Already under review is the development of a heat treatment which has been effective in neutralizing transmissible disease agents in other products. Blood must be rendered safe for all.

We have a challenge. We cannot be complacent. Our profession can and will cope with new diseases. We must seek to prevent any resurgence of the scourges of the past. We must educate the public to join in this effort by awareness of responsibilities to maintain good health practices. In spite of it all, mankind often seems bent upon self-destruction. We must continue the effort to prevent disease as well as develop new skills and agents to alleviate the devastating effects of disease. This challenge has been met in the past, and can be fulfilled in the future. M.E.A.



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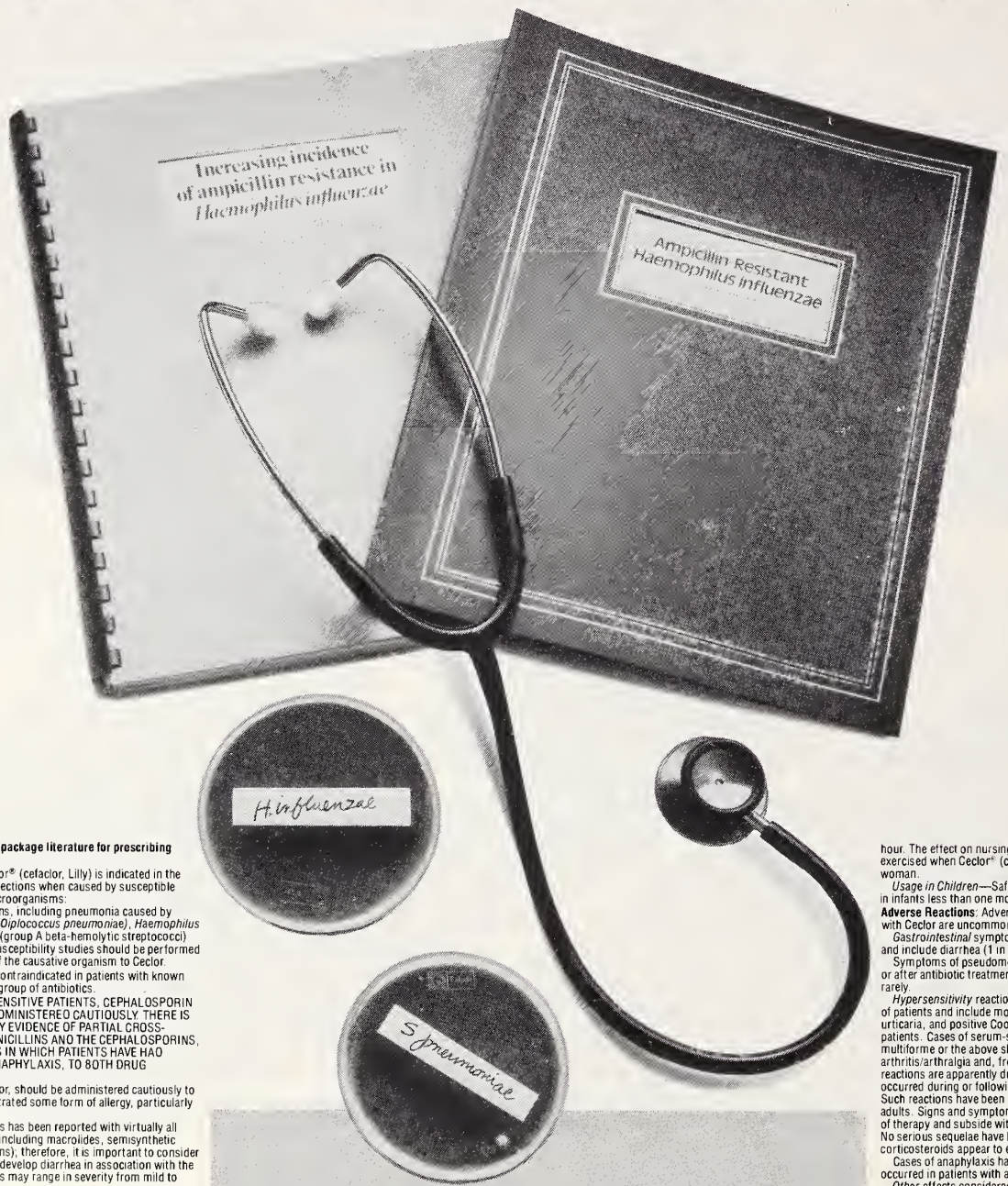
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An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor
Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]
Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

ON THE CREATION OF A NEW MEDICAL MUSEUM

OF WHAT USE is a museum, anyway? Is it just another technique for keeping busy a few otherwise idle and parasitic people who figure they can play on that strange inclination of human beings to revere their pasts and look backward, when they really ought to be looking around them today, or trying to peer into tomorrow? It's only *people* who do such strange things. Remember that wonderful praise that Walt Whitman heaped on animals: "Not one kneels to another, nor to his kind that lived thousands of years ago." On the other hand, people are fond of quoting not only Whitman, but also Santayana, who said that "Those who fail to remember the past are doomed to repeat it." Since animals neither build museums nor worry about past or future, then maybe museum building is one of the most human enterprises possible — certainly it stamps us as different from the beasts, and you can't say that for eating, drinking, sleeping or sex.

There are cultural differences, certainly, that govern how much a society reveres its past. For example, the Chinese are famous, even to us Westerners who don't really know much about China otherwise, for their veneration of their ancestors. And certainly many groups in Western civilization share that tendency to revere ancient persons, or traditions, or sacred writings, or modes of thought. Do physicians have reasons any different than any other group to want or need to know about their professional origins? Maybe not different, but I suspect such interest in origins correlates at least loosely with intelligence and group-consciousness. I suppose one might assemble some customary reasons that historians or museum directors have listed in their textbooks — in other words, the usual justifications for mustering an array of artifacts along with explanatory panels or tape recordings. These things will teach us, they might say. But will practicing physicians learn something that will help them do a better job of caring for that patient who will come to the office tomorrow afternoon with a strange or difficult problem?

There's not space enough, now that I've stated a cynical view, to offer my personal defense for developing such a museum and making it available in the educational process of medical students or practitioners. Suffice it that I value it strongly, and even believe that it can influence how one cares for that patient tomorrow afternoon. Admittedly, the difference it makes will likely be indirect, but the ability to use information and techniques that we acquire in one circumstance and apply in another is precisely what intelligence and professional judgment are all about.

I don't really imagine you'd want to give me a serious argument opposing development of such a museum. But what *would* you be willing to give? Books, equipment, uniforms? Old sutures, a leech jar, cupping glasses? An examining table, amputation saw, obstetrical forceps? Maybe money? In all this discussion I really am asking your help. Under the able direction of Joyce Summerwill, who has done such a fine job with Project Art and transformed the corridors and rooms of University Hospital into one of Iowa's major art galleries, a medical and hospital museum is being developed which will be a permanent display at University Hospitals. Not only will health care students and staff be able to benefit by opportunity to view themselves in the perspective of historical development and progress, but so will the many patients and visitors.

If you own items that impress you as worthy to be shown in such a display and feel willing to part with it (or them), please contact me or Ms. Summerwill at University Hospital (319/353-5763 or 319/353-6417) for some specific discussion. Your help can make an important difference to a worthy new effort.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

THE USE OF SULFASALAZINE IN THE TREATMENT OF INFLAMMATORY BOWEL DISEASE

SULFASALAZINE HAS been a major drug used in the therapy of inflammatory bowel disease (IBD) for over 30 years. It is estimated that over 400,000 individuals in the United States suffer from IBD.[1] The illness is characterized by chronic inflammation of the gastrointestinal tract as well as frequent extraintestinal complications which may include: iritis, conjunctivitis, erythema nodosum, pyoderma gangrenosum, arthritis, and hepatobiliary disorders.[1] Crohn's disease and idiopathic ulcerative colitis are both included in the category of IBD, and may show overlap of various manifestations. However, they are now thought of as distinct disease entities on the basis of clinical, radiological, endoscopic, and histological criteria. The diagnosis of IBD should only be made after the rigorous exclusion of other diseases such as infectious and ischemic colitis.

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

Sulfasalazine was synthesized by linking the sulfapyridine moiety with 5-aminosalicylate through a diazo bond. It was introduced in 1942 by Dr. Nina Svartz as a therapy for rheumatoid arthritis on the basis of the antimicrobial and anti-inflammatory activity of the sulfapyridine and 5-aminosalicylate moieties, respectively. Although sulfasalazine failed as a therapy for rheumatoid arthritis, Dr. Svartz soon reported its effectiveness in treating acute exacerbations of ulcerative colitis.[2]

EVIDENCE FOR CLINICAL EFFICACY

A series of uncontrolled studies confirmed the experience of Dr. Svartz. The first randomized controlled trial was published in 1962, and reported that sulfasalazine was more effective than placebo in treating mild ulcerative colitis.[3] This was verified in 1964 by A. P. Dick *et al* who treated patients for 4 weeks with doses of 4 to 6 grams per day. They found improvement in 78% of patients on sulfasalazine as compared to 38% of patients taking placebo.[4]

One of the most important discoveries has been that sulfasalazine is effective in preventing relapses of ulcerative colitis. Over a 6 month period, Azad Khan *et al* found an 8.9% relapse in patients taking 4 grams per day, 14% relapse in those taking 2 grams per day, and 33.3% relapse in the group taking 1 gram per day.[5] They recommended a maintenance dose of 2 grams per day since the slightly better result in the 4-gram-per-day group did not warrant the significantly increased side effects, seen in 21 of the 56 patients on that dose.

The role of sulfasalazine in the treatment of Crohn's disease is less clear. The National Cooperative Crohn's Disease Study concluded that sulfasalazine was effective in inducing a remission in patients with ileocolitis and colitis but was ineffective in patients with only ileal involvement.[6] Contrary to the results seen in patients with ulcerative colitis, sulfasalazine failed to demonstrate a prophylactic effect in the maintenance of a remission in patients with inactive Crohn's disease, or recent resection.[6]

At the present time, there does not appear to be a role for sulfasalazine in the therapy of systemic manifestations of IBD.

PHARMACOLOGY AND PHARMACOKINETICS

Patients with IBD do not differ from healthy subjects in regards to absorption, metabolism,

(Please turn to page 232)



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(Continued from page 230)

and excretion of sulfasalazine. A small portion of sulfasalazine is absorbed in the small intestine and is recirculated in the enterohepatic circulation as the parent drug or the N-acetyl metabolite.[7] Seventy-five percent of the drug reaches the colon unchanged where the bacteria split the azo bond and release 5-aminosalicylate and sulfapyridine. Most of the 5-aminosalicylate is excreted in the stool. After being absorbed, the sulfapyridine moiety is transported to the liver where it is acetylated, hydroxylated, and glucuronidized. The absorbed sulfapyridine and metabolites are excreted, primarily in the urine.[7] The role of acetylation is genetically determined. Those who are slow acetylators tend to accumulate sulfapyridine in the blood which may predispose this group to more frequent side effects.[8]

MECHANISM OF ACTION

The mechanism of the therapeutic effect of sulfasalazine remains unknown. It has been shown to improve sodium and water transport and lower potassium excretion in the colon.[7] Although in vitro studies have demonstrated the inhibition of leukocyte motility by 5-aminosalicylate and sulfasalazine,[9] the importance of the immunological effects is unknown. The antibiotic effect of sulfapyridine does not appear to play an important role.

Currently, the most popular theory is that sulfasalazine serves as a vehicle to deliver an active metabolite to the colon. Several studies indicate that this active metabolite is 5-aminosalicylate. Azad Khan *et al* showed that when 5-aminosalicylate was given by retention enemas to patients with ulcerative colitis, 30 percent showed histological improvement. While the same result was seen with sulfasalazine retention enemas, only 5% of patients responded to sulfapyridine enemas.[10] This result may be partially due to the inhibitory effect of 5-aminosalicylate on prostaglandin synthesis which is increased in ulcerative colitis. When given orally, 5-aminosalicylate is absorbed almost completely before reaching the colon and does not appear to have an effect on IBD.

SIDE EFFECTS

Adverse reactions to sulfasalazine have been reported to occur in 5 to 55% of patients taking the drug,[7] and may be considered in at least 2 different categories: direct toxicity and hypersensitivity. The toxic reactions are far more common and include: nausea, vomiting, abdominal discomfort, headache, vertigo, Coombs' negative hemolysis, and a blue skin discoloration. They tend to occur in slow acetylators and at doses greater than 4 grams per day, but usually resolve with lowering of the dose. Toxic reactions correspond to serum sulfapyridine levels greater than 50 μg per milliliter, but are not correlated with serum sulfasalazine or 5-aminosalicylate levels.[1]

The allergic responses which conform to the criteria for drug hypersensitivity reactions include: fever, arthralgias, lymphadenopathy, hypocomplimentemia, pulmonary infiltrates with eosinophilia, skin rash, hepatitis, and Coombs' positivity with variable hemolysis. Other adverse effects where the immune response is suspected but less well documented include: fibrosing alveolitis, asthma, pancreatitis, polyneuritis, agranulocytosis, thrombocytopenia, and pancytopenia.

Recently, male infertility has been ascribed to sulfasalazine and usually resolves with discontinuation of the drug. Sulfasalazine has been associated with oligospermia, decreased sperm motility,[11] and diminished capacity of the sperm to penetrate the egg.[12]

Because sulfasalazine and its metabolites cross the placenta, there has been concern about possible teratogenic effects. Mogadam *et al* reviewed the outcome of 531 pregnant women with IBD. Two hundred eighty-seven of these women received therapy during the pregnancy with sulfasalazine, prednisone, or both. Fetal complications were actually lower in both the treated and untreated groups as compared to the reported rates in the general population.[13] Although there is reason to remain cautious, the general consensus is that pregnant women do not need to discontinue sulfasalazine as there are no good data to support teratogenic effects of the drug.

There is very little information concerning the safety of sulfasalazine during breast feeding. The bilirubin displacing capacity of sulfapyridine (concentration in breast milk is 40% that of maternal serum) is felt to be small. There has been no increased risk of neonatal

jaundice in infants born to mothers taking sulfasalazine. However, there is no uniform consensus as to whether sulfasalazine may be given safely to nursing mothers.

INTERACTIONS WITH OTHER DRUGS

As with most other drugs, potentially significant drug interactions must be considered when treating patients with sulfasalazine. Sulfapyridine may theoretically displace drugs such as coumadin and oral hypoglycemics from protein binding sites.[7] Sulfasalazine has been shown in vitro to competitively inhibit folate absorption in the rat intestine. It competes for the folate recognition site of dihydrofolate reductase, serine transhydroxymethylase, and methylenetetrahydrofolate reductase.[7] Ferrous iron is chelated by sulfasalazine which may interfere with the action of sulfasalazine and absorption of iron if they are given simultaneously.[7] Digoxin absorption has also been shown to be variably impaired by sulfasalazine.[14]

COMPARISON WITH OTHER DRUG REGIMENS

In general, corticosteroids are indicated for the treatment of moderately to severely active ulcerative colitis. They are also useful in less severe episodes which are not responsive to sulfasalazine. Ulcerative proctitis may frequently be controlled with corticosteroid retention enemas. Crohn's disease involving the small intestine, and Crohn's colitis not responsive to sulfasalazine, are indications for corticosteroid therapy.

Although azathioprine and 6-mercaptopurine have been shown to allow a significant reduction in the steroid dose without aggravation of symptoms,[7] their use in IBD is controversial. They may have a role in certain patients.

Metronidazole is currently being evaluated in clinical trials and may be effective in certain patients with Crohn's disease.[15]

DESENSITIZATION

Because allergic reactions have prevented the use of sulfasalazine in several patients who could greatly benefit from the drug, desensitization protocols have been developed. These are based on widely accepted tolerance induction regimens which have been developed for other drugs such as penicillin and insulin. Interestingly, the first desensitization protocol was developed by Dr. Svartz in 1948.[2] Holdsworth described the desensitization of 5 out of 6 patients with skin rash and/or fever.[16] All 12 patients involved in the protocol at The University of Iowa have been successfully desensitized. We feel that desensitization should continue to be done by protocol. Patients with hypersensitivity reactions other than skin rash and/or fever should be excluded.

FUTURE DEVELOPMENTS

The need for desensitization protocols may eventually be eliminated. In an attempt to avoid the adverse effect of the sulfapyridine moiety, compounds are being developed as modifications of sulfasalazine. One of these drugs is a dimer of 5-aminosalicylate linked by a diazo bond. Like sulfasalazine, this drug depends on the bowel flora to split the diazo bond which would limit the therapeutic effect to colon. A timed release preparation of 5-aminosalicylate has recently been evaluated by S. N. Rasmussen and colleagues. They found that this product provides 5-aminosalicylate to all areas of the gastrointestinal tract.[17] Whether this drug will be effective in the treatment of IBD awaits further clinical study.

SUMMARY

Unfortunately, there is no medical cure for IBD. Sulfasalazine has been shown to be an effective drug in obtaining a remission in a significant number of patients with idiopathic ulcerative colitis and Crohn's disease. It provides good therapy for the maintenance of a remission in patients with ulcerative colitis. Because the active moiety appears to be 5-aminosalicylate, new drugs are being developed to deliver this compound to areas of inflammatory bowel disease. Hopefully, this will reduce the side effects while preserving the effectiveness of sulfasalazine. — David M. Philips, M.D., Fellow, Department of Internal Medicine

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MEDICAL ASSISTANTS

The national president of the American Association of Medical Assistants participated in the twenty-seventh annual meeting of the Iowa State Society, Inc., during April in Cedar Rapids. She is Betty Mays of Phoenix, Arizona.

Incoming officers of Iowa State Society, Inc., of the American Association of Medical Assistants are Ethel Kunkle, president, Des Moines chapter; Gwen Jansen, president-elect, Siouxland chapter; Cindy Gray, vice-president, Siouxland chapter; Mary Bechler, recording secretary, Siouxland chapter, and Chris Bartkiw, treasurer, Des Moines chapter.

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Bactrim™ DS
(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:
Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.
For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.
For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.
For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.
Also for the treatment of documented *Pneumocystis carinii* pneumonitis.
Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.
Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. *Pregnancy:* Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.
Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.
Dosage: *Not recommended for infants less than two months of age.*
URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:
Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.
Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.
ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:
Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.
PNEUMOCYSTIS CARINII PNEUMONITIS:
Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.
Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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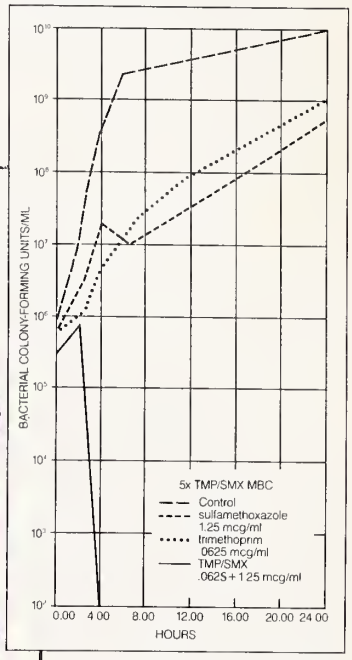
Bactericidal activity with minimal resistance

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials

	Escherichia coli	*Klebsiella pneumoniae*	*Proteus mirabilis*	*Proteus vulgaris*	*Proteus sp.*	*Enterobacter sp.*	*Enterobacter aerogenes*	*Enterobacter cloacae*
BACTRIM	**96%** 328,598	**89%** 63,551	**93%** 62,691	**84%** 4174	**91%** 4381	**88%** 1736	**96%** 7326	**92%** 11,856
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofur-antoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI* *



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro.*[1]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro.** Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

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STATE DEPARTMENT/ PUBLIC HEALTH

A LOOK AT THE INFANT AT RISK FOR SUDDEN DEATH

The Iowa Sudden Infant Death Syndrome Program, in the Iowa State Department of Health, is addressing the issue of infant apnea and developing guidelines for care for Infant Apnea Programs.

Apnea, which means "without breath," medically signifies a period of non-breathing. In a recent study conducted by the Task Force on Prolonged Apnea (American Academy of Pediatrics), it was concluded prolonged apneic spells in infants may lead to morbidity and occasional mortality. Present etiological considerations in prolonged apnea include several differential diagnoses. It further seems likely that some victims of Sudden Infant Death Syndrome (SIDS) have succumbed to unrelieved prolonged apnea.

Sudden death in infancy may be due to numerous causes, including anatomical and neurological defects. SIDS may be due to asphyxiation or airway obstruction at some level during sleep from yet unknown causes. By definition SIDS is "the sudden death of any infant or young child, which is unexpected by history and in which a thorough postmortem examination fails to demonstrate an adequate cause for death." In 1981 and 1982, Iowa had 90 and 92 SIDS deaths respectively. This is a rate of 2 per thousand live births, which is consistent with the national rate of occurrence.

Studies have shown, rather convincingly, that babies referred to as near-miss for sudden infant death probably are, as a group, at considerable risk for Sudden Infant Death Syndrome. Virtually everyone concerned agrees that as a group these so-called near-miss infants probably represent multiple clinical entities and are in need of monitoring. For purposes of definition, a "near-miss" is described as "an infant who has been found during sleep to be apneic, limp, unresponsive, cyanotic, or pale and needs stimulation or mouth-to-mouth resuscitation to terminate the episode."

The Task Force on Apnea goes on to state: "beyond specific treatment of any underlying disorder, twenty-four (24) hour surveillance is critical to the management of prolonged apnea. Settings for intensive observation and care may include the appropriately staffed and equipped acute care hospital, and the infant's home." The State Department of Health is currently working with 3 hospitals who have infant apnea programs; medical care for apnea evaluation for infants at risk. Three categories of infants at risk are: (1) An infant having a "near-miss" episode, (2) Sibling of an infant with clinical apnea or SIDS, and (3) A surviving twin.

The Infant Apnea Program diagnostic evaluation begins with an extensive history obtained from the person who observed the apneic episode, either parents, relatives and/or nurses. This includes specific information about: awake or asleep, position, color, respiratory effort, tone, noises made, relationship to feeding, duration and intervention needed, and post-intervention state. A similarly detailed history concerning any previous episode of SIDS in the family should be obtained. The diagnostic evaluation includes consideration of convulsive disorders, sepsis, electrolyte imbalance, hypoglycemia, pulmonary disease, upper airway obstruction, congenital cardiac disease and muscle disorders as part of the differential diagnosis. The infants are evaluated through a testing program which may include: (1) Laboratory and radiology evaluation; (2) Pneumogram (12 hour recording of heart rate and respiratory rate); (3) Carbon dioxide response test; (4) Electrocardiogram, and (5) Other tests as indicated. If the results of the tests are abnormal the infant is provided treatment.

(Please turn to page 238)

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

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Treatment of the infant consists of appropriate drug therapy (theophylline or caffeine), home monitors or a combination of the two. If home monitoring is recommended by the Infant Apnea Program, the monitoring is carried out by the parents at home. Each time the child goes to sleep, she/he must wear a belt around the chest connected by wire leads to a monitor that measures heart rate and respiration. If the child has an episode of apnea and/or bradycardia, the alarm will sound. The families receive between 8 to 12 hours of very intensive teaching, including CPR. They learn how to use, care for, and interpret all parts of the equipment. They are taught to distinguish between real and false alarms, and to carry out the sometimes complicated tasks of trouble shooting for technical problems. Families learn how to set up the equipment at home, travel with the baby, give medications, help older brothers and sisters deal with the stress, where to find qualified baby sitters, and much more.

Each family should be followed after discharge by the Infant Apnea Program staff who provide comprehensive psycho-social support services. Local resources such as social services, church, community health nursing service, and volunteer groups which may aid families are utilized. Home monitoring support groups have been established in some areas.

All infants are assessed at least monthly by the staff at the Infant Apnea Center for evaluation of progress made during home monitoring. *Medical problems not directly related to the infant's apnea problems are handled by the private physician.*

Other relevant community agencies and businesses are notified. For example, the local rescue service and police department should be aware a baby in their service area is on a home monitor. The electric and telephone companies are also notified of the monitor because of potential interruption of electric service and the potential for an emergency phone call.

Discontinuing the monitor presents a special problem for the physician and the family. Many times the parents have become dependent on the monitor and have difficulty accepting the idea of discontinuing monitoring. Peer support from other parents is very helpful during this time.

The Iowa SIDS Program has been working with the following Infant Apnea Programs:

Mercy Hospital Medical Center — Des Moines, Iowa
John Gay, M.D., Medical Director
Susan Logsdon, R.N., Nurse Coordinator

St. Francis Hospital — Waterloo, Iowa
Jean LePodevin, M.D., Medical Director
Bobbi Smith, R.N., Nurse Coordinator

University of Iowa Hospitals & Clinics — Iowa City, Iowa
Miles Weinberger, M.D., Medical Director
Cheryl Conrad, R.N., P.N.P., Nurse Coordinator

The 3 centers, in cooperation with the Iowa SIDS Program, are assembling a document entitled "Guidelines For Care, Infant Apnea Programs." This guide will serve as a base for these centers when dealing with the infant at risk for sudden death.

Copies of the guide will be available by writing or calling the Iowa SIDS Program, Iowa State Department of Health, Lucas State Office Building, Des Moines, Iowa 50319. 515/281-4904.

April 1983 Morbidity Report

Disease	Apr. 1983 Total	1983 to Date	1982 to Date	Most Apr. Cases Reported From These Counties
Amebiasis	3	17	36	Jasper, Linn
Brucellosis	0	0	1	
Chickenpox	1171	4032	4526	Scattered
Campylabacter	3	55	64	Scattered
Cytamegalovirus	1	6	14	Johnsan
Eaton's Agent infection	10	95	77	Scattered
Encephalitis, viral	4	16	6	Black Hawk, Polk, Webster
Erythema infectiosum	0	25	163	
Gastroenteritis (GIV)	278	7109	6864	Scattered
Giardiasis	6	61	31	Clinton, Bremer, Calhoun, Buena Vista
Hepatitis, A	5	14	37	Scattered
Hepatitis, B	15	27	35	Scattered
Hepatitis, Nan A-B	7	17	6	Scattered
Hepatitis type unspecified	1	4	7	Black Hawk
Herpes Simplex	33	413	116	Scattered
Herpes Zoster	0	6	9	
Histaplasmasis	0	10	11	
Infectiaus monanucleasis	4	92	100	Benton, Black Hawk
Influenza, lab confirmed	62	179	38	Scattered
Influenza-like illness (URI)	5369	24047	22404	Scattered
Legianellosis	0	1	13	
Malaria	0	2	3	
Meningitis				
aseptic	1	21	10	Johnson
bacterial	19	57	64	Scattered
meningocaccal	3	9	5	Iowa, Tama, Webster
Mumps	2	31	21	Cerro Gordo, Davis
Pertussis	2	4	1	Cerro Gordo, Sioux
Rabies in animals	27	78	142	Scattered
Reye Syndrome	0	0	3	
Rheumatic Fever	0	0	2	
Rubella (German measles)	0	0	0	
Measles	0	0	0	
Salmonellosis	20	54	100	Scattered
Shigellosis	1	11	17	Polk
Toxic Shock Syndrome	2	6	6	Winneshiek, Pottawattamie
Tuberculosis				
total ill	9	32	33	Scott, Polk, Black Hawk
bact. pos.	9	26	25	Scott, Polk, Black Hawk
Typhoid Fever	0	0	1	
Venereal diseases:				
Gonarrhea	465	1491	1547	Scattered
Syphilis	0	4	11	

Laboratory Virus Diagnosis Without Specified Clinical Syndrome: Adenovirus — 1, Johnson; Kawasaki — 1, Pottawattamie; Yersinia — 3, Johnsan, 1, Muscatine.

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NEWS/PRODUCTS, PROGRAMS, ETC.

Information on various products, programs, etc., is received regularly by the IMS JOURNAL. *Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the* IMS JOURNAL.

FROM MERCK — A non-steroidal drug with analgesic, anti-inflammatory and anti-pyretic properties has been released by Merck, Sharp, and Dohme. Dolobid® (Diflunisal) is indicated for acute or long-term use for symptomatic treatment of mild to moderate pain as well as osteoarthritis. Available as 250 mg and 500 mg film-coated tablets, the dosage is 500-1000 mg initially followed by 250-500 mg every 8-12 hours. Maintenance doses higher than 1500 mg daily are not recommended.

PATIENT MONITOR — Hewlett-Packard has introduced a new patient monitor (HP 78351A) designed for the operating room, the CCU and the ICU. It provides simplified set-up and operation, reliable alarms, and easy viewing. This bedside monitor may be used initially in a more comprehensive critical-care monitoring system. The base price is $2,850.

INSERT WORDING — The U.S. Food and Drug Administration has approved an addition to the package insert for Loniten® (Minoxidil, Upjohn) which reads: "When used in severely hypertensive patients resistant to other therapy, frequently with an accompanying diuretic and beta-blocker, Loniten® usually decreased the blood pressure and reversed encephalopathy and retinopathy." Loniten® is the only antihypertensive medication available in the U.S. for which a target organ damage reversal claim has been granted.

BRONCHODILATOR — A tablet form of albuterol, a long-acting bronchodilator, has been approved for marketing in the U.S. This new prescription drug is marketed by Schering Laboratories under the trade name Proventil® Tablets, and by Glaxo Inc. as Ventolin® Tablets. Albuterol works on the smooth muscle of the bronchial tree allowing relaxation of the muscles to provide a better airway, with lower incidence of cardiovascular side effects.

SKIN CLOSURES — 3M has a new Steri-Strip Antimicrobial Skin Closure which provides an extra measure of protection against surface contaminants through a continuous release of iodine to the patient's skin. These closures are available in three sizes — ¼ by 3 inches, ¼ by 1½ inches, and ½ by 4 inches.

ANGINA MEDICATION — G. D. Searle & Co. has introduced Nitrodisc™, a once-a-day transdermal therapy for the prevention and treatment of angina pectoris. The Nitrodisc will be available in two sizes — one delivering 5 mg of nitroglycerin over a 24 hour period, and the other 10 mg of nitroglycerin. The adhesive disc is to be placed once a day on the chest or inner surface of the arm.

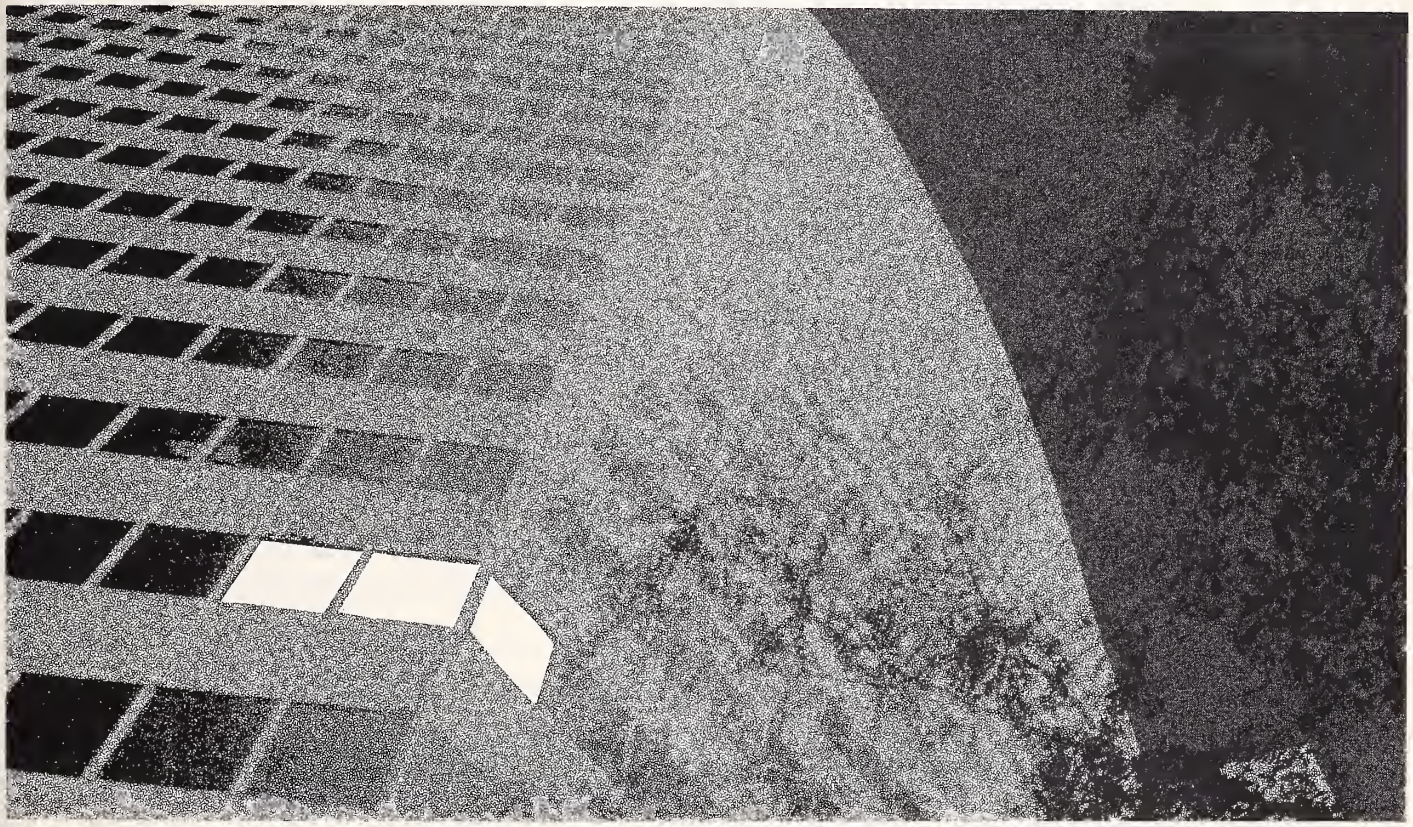
RECENT BOOKS

Langston, Deborah P., 1983, LIVING WITH HERPES, Doubleday & Co., New York, $7.95, paperback. (Doctor Langston, Associate Clinical Professor at Harvard Medical School, is Director of a Urology Research Laboratory and a recognized authority on herpes.)

Arney, William Ray, 1983, POWER AND THE PROFESSION OF OBSTETRICS, University of Chicago Press, Chicago, $25.00. (A social history of obstetrics seeking to lay bare the nature of professional power.)

Dreisbach, Robert H., 1983, HANDBOOK OF POISONING, 11th edition, Lange Medical Publications, Los Altos, California, $11.00. (A concise little handbook useful for quick reference.)

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ABOUT IOWA PHYSICIANS

Dr. Joseph A. Buckwalter, associate professor, Department of Orthopedic Surgery, U. of I. College of Medicine, recently was named a fellow of the American Academy of Orthopedic Surgeons. . . . **Dr. J. B. Greenwell,** urologist, recently joined the Luke Medical Specialty Clinic in Carroll. Dr. Greenwell received the M.D. degree at the University of Kentucky School of Medicine. Prior to locating in Carroll, he practiced in Riverton, Wyoming. . . . **Dr. Stephen E. Sparks** will begin medical practice in Keosauqua after completing his family practice residency in July. Dr. Sparks received the M.D. degree at the U. of I. College of Medicine, and has had his residency in Waterloo. . . . **Dr. R. Ried Boom** will begin family practice at Waukon Medical Associates later this year. A graduate of the U. of I. College of Medicine, Dr. Boom will complete his family practice residency at St. Francis Hospital in La Crosse, Wisconsin, in July. He will spend a few months overseas before joining the Waukon firm. . . . **Dr. Adelu G. Lipede** recently started a practice of thoracic and cardiovascular surgery in Burlington. A native of Nigeria, Dr. Lipede graduated from the University of Ibadan in West Africa and earned a doctor of philosophy degree at Cambridge University in England. He came to the United States in 1972 and has studied general surgery at the University of Louisville in Kentucky and thoracic and cardiovascular surgery at the University of Wisconsin.

Dr. George Montgomery, recently retired Ames physician, and his wife are serving a six-month stint at the Immanuel Lutheran Hospital in Papua, New Guinea. Dr. Montgomery is one of three doctors at the 160-bed

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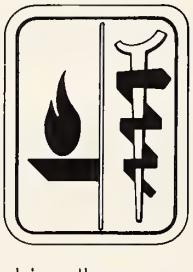
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facility. Mrs. Montgomery, who served in New Guinea as an WWII army nurse, is assisting with nursing duties. In 1970, Dr. and Mrs. Montgomery served for a year as a medical team in Suda, Republic of South Africa. . . . **Drs. John Wilson, Larry Van Weil** and **Bryce Wilson,** Des Moines physicians, recently returned from treating patients in a poverty area of Honduras. Their tour of duty was sponsored by the Christian Medical Society. . . . **Dr. Ernest O. Theilen,** professor, Department of Internal Medicine, U. of I. College of Medicine, recently was named Governor of the American College of Physicians. Dr. Theilen will serve a four-year term. . . . **Dr. John A. Broman,** Maquoketa, **Dr. W. T. Kelsey,** Newell, **Dr. Donald J. Soll,** Denison, and **Dr. J. H. Thomas,** Sibley, were presented Team Doctor Awards by the Iowa High School Athletic Association during the recent boys state basketball tournament in Des Moines.

Medical Associates in Clinton recently established the "**Dr. Ahmed A. Taha** and Family Memorial Scholarship." The memorial to the Taha family will provide $30,000 in scholarship funds at Clinton Community College and Mount St. Clare College. Dr. Taha was a staff member at Medical Associates. The Taha family died in a fire at their home in Clinton in November, 1982. . . . **Dr. Kiyoshi Furumoto** recently was named chief of staff at Van Buren County Memorial Hospital and **Dr. James T. Worrell,** vice chief of staff. Both are Keosauqua physicians. . . . **Dr. Preeti Bhatia,** Clinton, recently became an American citizen. A native of Karachi, India, Dr. Bhatia received her medical education at Lady Harding Medical College and Hospital in New Delhi. In 1970, she came to the United States and joined Medical Associates in Clinton in 1977. Dr. Bhatia is a fellow of the American College of Allergists and American Academy of Pediatricians. . . . **Dr. William R. Daws,** Burlington, recently was elected a Fellow of the American Academy of Pediatrics. Dr. Daws is an assistant clinical professor at the U. of I. College of Medicine and chief of the Maternal and Child Health Department at the Burlington Medical Center. . . . **Dr. M. Neil Williams,** Cedar Falls, was the guest speaker at a recent meeting of the Water-

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loo Ostomy Chapter. Dr. Williams spoke on "Surgery in the Dominican Republic."

Dr. David Burt and his wife, **Dr. Judy Chow,** formerly of New Brunswick, Canada, recently began medical practice in Primghar. Both physicians attended medical school at the University of British Columbia in Vancouver, Canada, and interned at the Royal Victoria Hospital in Montreal.

DEATHS

Dr. Kermit W. Myers, 77, Mount Vernon, died March 28 at St. Luke's Hospital in Cedar Rapids. Dr. Myers received the M.D. degree at the U. of I. College of Medicine and interned at Wesley Hospital in Wichita, Kansas. Following 33 years in family practice in Sheldon, Dr. Myers served as director of student health at Cornell College in Mount Vernon. In 1967, he served on the hospital ship, Hope, at Colombia, South America. Dr. Myers retired as major from the Air Force and served during World War II in the Army Air Corps.

Dr. Ross C. King, 79, retired Clinton physician, died April 27 at St. Mary's Hospital in Rochester, Minnesota. Dr. King received the M.D. degree at the University of Nebraska College of Medicine in Omaha. He practiced in Clinton for 42 years, retiring in 1975. Widely known for his work in the field of alcohol abuse, Dr. King was the first recipient of the Kirk Strong award created by the Governor's Commission on Alcohol and Substance Abuse. A World War II veteran, he was a charter member and first president of the Clinton County Commission on Alcoholism and was a charter member of the Iowa State Commission on Alcoholism and IMS Committee on Alcoholism. Dr. King was a past president of the Mercy Hospital medical staff; diplomate of the International College of Surgeons; fellow in American College of Chest Physicians; fellow of the American Academy of Family Physicians and life member of the Iowa Medical Society.

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IT IS HEARTENING to be singled out for recognition once in awhile. And it's even more satisfying to be honored twice. But, alas our cup runneth over, the JOURNAL OF THE IOWA MEDICAL SOCIETY has received a third plaudit in a span of eight years.

Sandoz Pharmaceuticals has sponsored a medical journalism competition over this period of time. Editors have been invited by Sandoz to enter their publications in this annual awards program.

The competition is divided into four categories: (1) state and regional medical journals; (2) county and city medical publications, (3) state and local pharmaceutical publications, and (4) journals and other nonemployee publications published by hospitals and medical groups. The judging is done by individuals Sandoz selects for their skill, knowledge and experience in journalistic endeavor.

While announcement of this year's winners was made a few weeks back, we'd like to recap our success in this space. In the 1983 Sandoz competition the IMS JOURNAL was chosen with three other state publications as recipients of special awards. It is pleasing for Iowa to share the 1983 Sandoz spotlight with several superior medical publications. Our counterpart winners of special awards are MICHIGAN MEDICINE, PENNSYLVANIA MEDICINE and VIRGINIA MEDICAL. The 1983 sweepstakes winner (first prize) was the JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.

We extend our best wishes to these companion publications. The JOURNAL OF THE IOWA MEDICAL SOCIETY is proud to be in their company.

This most recent Sandoz bouquet was presented to the IMS JOURNAL at the 1983 session of the IMS House of Delegates. It all occurred April 30 when Mr. Gary Keim of Sandoz handed a certificate and a $250 check to Marion E. Alberts, M.D., scientific editor of the JOURNAL. It was a pleasant moment for those of us directly involved with the JOURNAL.

The IMS JOURNAL earned its first Sandoz citation in 1976. This recognition was a top prize "for excellence in design and editorial content." Back in those days the IMS JOURNAL competed in the small journal (circulation under 3,000) category. Since then our circulation has increased to 3,700 to place us in competition with the larger states.

Our second Sandoz recognition came in 1978. Against this more formidable competition, the IMS JOURNAL was selected to receive an honorable mention certificate, again "for excellence in design and editorial content."

So this brings us to 1983, and a third commendation to the Iowa Medical Society. Obviously, it means more to those of us directly involved in the planning and production. But, hopefully, it will bring a measure of satisfaction to the IMS member physicians who make up our readership.

We are grateful to our readers. We are grateful to our advertisers. We appreciate especially those persons who supply us with material to be published. We have a good inventory of scientific manuscripts awaiting publication. We regret the delay which occurs between acceptance of a paper and its ultimate publication. We appreciate the patience of those involved.

In the 8-year interval represented by the three Sandoz awards, the IMS JOURNAL has sought to be somewhat innovative. We believe our job is to furnish worthwhile information in an attractive package. We have several ideas waiting in the wings even now.

There's a biblical passage in the New Testament that speaks of not letting your light be hidden 'neath the bushel. Loosely translated, doesn't that say if you've got good news, share it? Even though it pushes modesty aside for the moment.

We're proud of the recognition we've received.

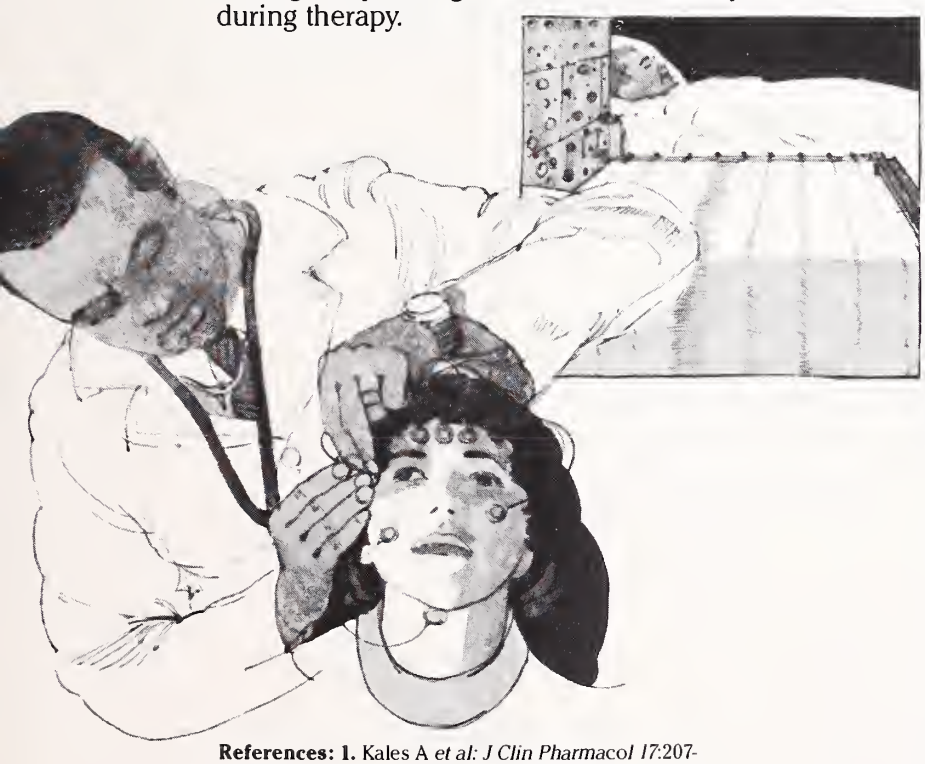
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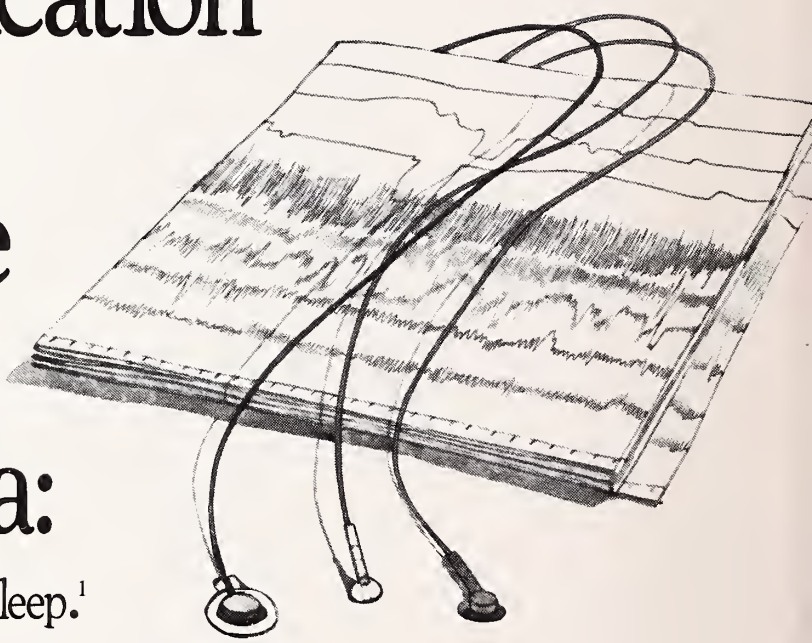
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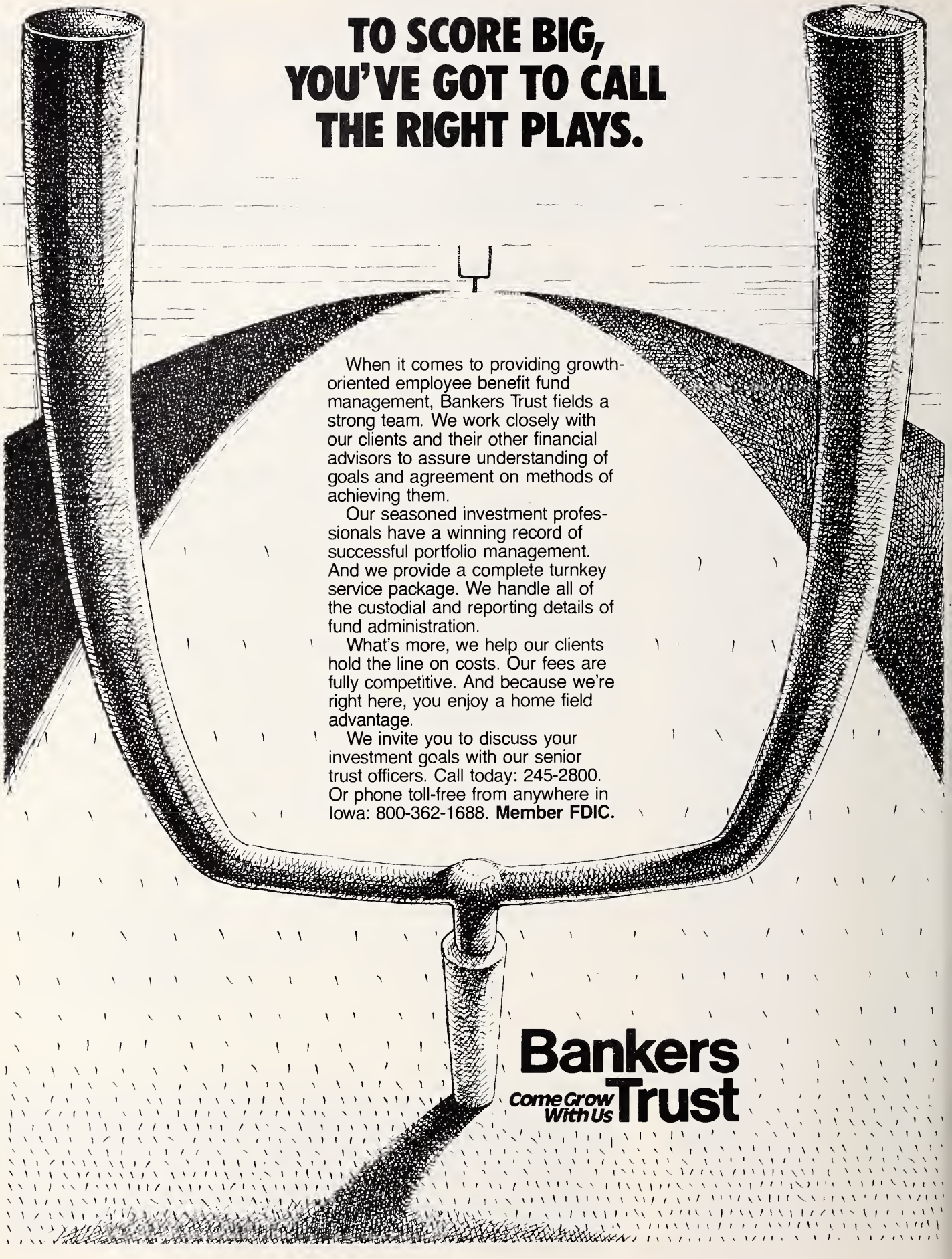
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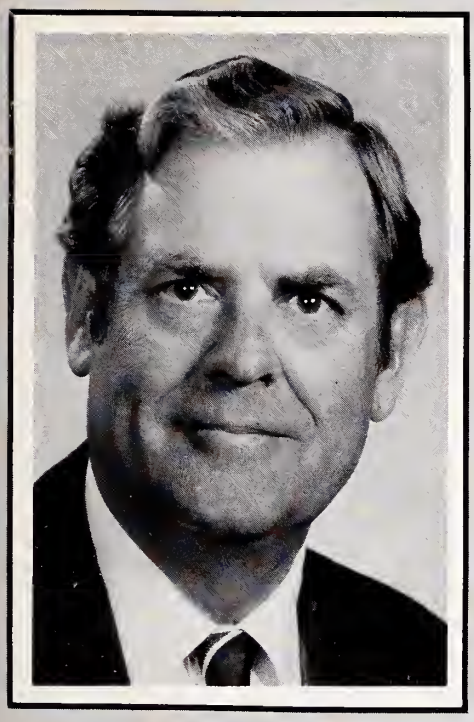
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ABOUT THE COVER — This time of year new family physicians complete residency programs and enter practice. Kim J. Rettenmaier, M.D., has just finished the Waterloo Family Practice Residency Program. He is joining the Semler Clinic in Story City. In upper photo, Kim checks a hospital chart with Brian Heineman, D.O., a new associate. Below, Kim and Janet Rettenmaier (and their Dalmatian pup) smile at the prospects of a new rural lifestyle. See IN THE PUBLIC INTEREST for more about new family doctors beginning Iowa practices.


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PRESIDENT'S PRIVILEGE

HELPING THOSE IN NEED

Iowans rallying to help neighbors in need? That's what I'd like to mention this month in my series of comments about in-state health-related activities.

Last November we held a news conference at Society headquarters. We explained an IMS program called *82/83 Iowa Physician Concern.* Simultaneously, we sent each Society member a letter about the program together with several printed items. We received hundreds of requests from physicians and in turn distributed a large number of posters and folders. These told patients of our willingness to help supply medical care where needed by those in financial straits.

This whole effort has been (and is) aimed at asking you to redeclare your willingness to aid patients experiencing economic hardship due to unemployment or other loss of income.

We have been gratified by the response of Iowa physicians. Many already were offering this help. In fact, some said we don't need a special program; we give help as a matter of course when our regular patients need it. Some of our county societies indeed have become involved in special ways during this economic downturn.

Dubuque County is a good example of meaningful participation. Through an organized program administered by the community's Information Referral Service, needed care is being furnished to eligible citizens. Eighty-six physicians have agreed to provide care either free or on a reduced or deferred fee basis. Other providers have become active. From December to mid-March close to 100 persons have received health care under the Dubuque program.

"It was really neat when the other professionals found out what the doctors were doing, and they wanted to help, too." This gratifying comment comes from Barbara Goldstein, director of the Dubuque agency coordinating this effort.

Iowa's economy is improving. That's good. Still there is, and probably always will be, much opportunity to help deserving citizens. We congratulate the Dubuque physicians for responding so well. The same goes for many other Iowa doctors. *Keep up the good work!*

Erling Larson MD

Erling Larson, M.D.
President

Summary of 1983 Actions By IMS House of Delegates

THE 1983 ANNUAL MEETING of the Iowa Medical Society House of Delegates was April 30 and May 1 in Des Moines. Sessions of the House were chaired each day by Lynn D. Caraway, M.D., and William C. Rosenfeld, M.D., speaker and vice speaker, respectively. Open hearings were conducted by 3 reference committees on April 30. The Delegates' banquet occurred April 30 and was chaired by President Hormoz Rassekh, M.D.

The 1983 Iowa Medical Society Merit Award recipient was Clarence H. Denser, Jr., M.D., Des Moines. The University of Iowa Foundation, Iowa City, received the Washington Freeman Peck Award. The John F. Sanford Award was presented to Eldon E. Huston, executive vice president of the Iowa Medical Society. Mr. Huston was cited for his 25 years of service to the IMS. The Ben T. Whitaker Award, Interstate Postgraduate Medical Association of North America, was presented to Richard M. Caplan, M.D., associate dean, Continuing Medical Education, U. of I. College of Medicine, Iowa City.

APRIL 30 SESSION

Registered for the April 30 session of the House were 143 delegates and 11 ex officio members. Minutes of the May 2, 1982 session of the House of Delegates were approved as summarized in the July 1982 issue of the JOURNAL OF THE IOWA MEDICAL SOCIETY. Reports contained in the 1983 HANDBOOK FOR THE HOUSE OF DELEGATES were approved as published with the exception of a recommendation of the Committee on Delivery of Health services on page 18 of the HANDBOOK. It was referred to the Reference Committee on Legislation.

The following reports were made to the 1983 House of Delegates:

Board of Trustees, chaired by John E. Tyrrell, M.D., chairman; this report involved each board member presenting a Statement of Principle on the following topics:
Assurance of Quality, Economic Concern, Innovation in Health Care Delivery, Competitive Marketplace, Professional Responsibility, Promotion of Good Health and Cooperative Leadership.

Blue Shield, by Enfred E. Linder, M.D., chairman, Blue Shield Board of Directors. Following Dr. Linder's report, D. Eugene Sibery, president, Blue Cross and Blue Shield of Iowa, addressed the House.

Iowa Foundation for Medical Care, by Robert A. Pfaff, M.D., IFMC president.

Iowa Medical Foundation, by John E. Tyrrell, M.D., president, Foundation Board of Directors.

Necrology, by Daniel M. Youngblade, M.D., chairman, Judicial Council.

Nominating Committee, by Lawrence O. Goodman, M.D., chairman. A recommendation in the Nominating Committee report was referred to the Reference Committee on Reports of Officers and Articles of Incorporation and Bylaws.

Legislative Committee, by Clarence H. Denser, Jr., M.D., chairman.

Iowa Medical Political Action Committee (IMPAC), by Jackson D. Ver Steeg, M.D., chairman. David B. Horner, M.D., Santa Monica, California, member of the AMPAC Board of Directors, addressed the House briefly.

A check for $14,010.96 was presented by John E. Tyrrell, M.D., chairman, IMS Board of Trustees, to the University of Iowa College of

Medicine. The grant represents contributions to the AMA/ERF which have been designated for the U. of I. John W. Eckstein, M.D., dean, U. of I. College of Medicine, accepted the check.

A supplemental report of the Committee on Articles of Incorporation and Bylaws, and a supplemental report of the Committee on Alternate Delivery Systems were contained in the delegates' packets. They were not read.

In his address to the House, Society President Hormoz Rassekh emphasized Iowa physicians must continue to provide quality medical care while supporting cost containment programs. In this age of high technology, he urged physicians to retain a personal touch with their patients. Dr. Rassekh's remarks were published in the June, 1983, issue of the JOURNAL OF THE IOWA MEDICAL SOCIETY.

Twenty resolutions were formally introduced and referred to reference committees. Action taken on these resolutions is reported subsequently in this summary.

The following physicians were elected to Life Membership in the Iowa Medical Society.

Black Hawk: Craig D. Ellyson, M.D., Waterloo
Buena Vista: Robert E. Mailliard, M.D., Storm Lake
Davis: Edwin O. Gilfillan, M.D., Englewood, Florida
Dubuque: Lincoln F. Steffens, M.D., Dubuque
Franklin: Seth G. Walton, M.D., Hampton
Hamilton: Otho C. Buxton, Jr., M.D., Webster City, and Joseph L. Ptacek, M.D., Webster City
Hardin: Emerson J. Steenrod, M.D., Iowa Falls
Jefferson: Frank H. McClurg, M.D., Fairfield
Linn: John J. Keith, M.D., Cedar Rapids, Edwin B. McConkie, M.D., Cedar Rapids, Don J. McDonald, M.D., Cedar Rapids, and Robert A. Youngman, M.D., Cedar Rapids
Marshall: Ralph C. Carpenter, M.D., Marshalltown
O'Brien: Everett B. Getty, M.D., Primghar
Polk: Henry H. Gurau, M.D., Des Moines, Virginia D. Thompson, M.D., Rippey, and Clare A. Trueblood, M.D., Indianola
Scott: Merle J. Brown, M.D., Davenport, Charlotte Rosendorff, M.D., Davenport, and Cecil M. Zukerman, M.D., Davenport
Story: Lee E. Rosebrook, M.D., Ames
Tama: A. J. Havlik, M.D., Tama
Woodbury: Lewis J. Dimsdale, M.D., Ft. Lauderdale, Florida, and Chauncey E. Heffernan, M.D., Sioux City

The following physicians were elected to Associate Membership in the Iowa Medical Society:

Benton: Gerald A. Fry, M.D., Vinton
Black Hawk: Richard A. Acker, M.D., Waterloo, Frederick G. Loomis, M.D., Waterloo, Robert C. Miller, M.D., Waterloo, and Ross G. Randall, M.D., Waterloo
Carroll: Josef R. Martin M.D., Carroll
Cass: Dwight H. Stone, M.D., Atlantic
Cerro Gordo: Harry W. Alcorn, M.D., Clear Lake, and Paul W. Morgan, M.D., Mason City
Cherokee: Milford D. Hayden, Jr., M.D., Cherokee
Dallas-Guthrie: William A. Castles, M.D., Dallas Center
Dubuque: Mansfield S. Lagen, Jr., M.D., Dubuque, William Province, M.D., Dubuque, and Paul B. Skelley, M.D., Dubuque
Hancock-Winnebago: John R. Camp, M.D., Hope, Idaho
Humboldt: James H. Coddington, M.D., Humboldt
Johnson: Mary E. G. Dewey, M.D., Iowa City, and Harry B. Weinberg, M.D., Hollywood, Florida
Lee: George J. McMillan, M.D., Fort Madison
Linn: Robert C. Locher, M.D., Cedar Rapids, and Millard A. Troxell, M.D., Cedar Rapids
Marion: Robert R. McClung, M.D., Knoxville
Marshall: Milo E. Jeffries, M.D., Marshalltown
Palo Alto: Carlyle C. Moore, M.D., Emmetsburg
Polk: Paul T. Cash, M.D., Des Moines, John H. Hege, Sr., M.D., West Des Moines, Paul B. Lambrecht, M.D., Des Moines, James T. McMillan, M.D., Des Moines, and Robert W. Merrill, M.D., Des Moines
Pottawattamie-Mills: John E. Krettek, M.D., Council Bluffs
Scott: Martin S. Esders, M.D., Davenport
Story: George E. Montgomery, M.D., Ames
Tama: Lawrence G. Schaeferle, M.D., Gladbrook
Union-Taylor: Robert H. Kuhl, M.D., Creston
Wapello: Sidney Brody, M.D., Ottumwa
Webster: Marion B. Allen, M.D., Fort Dodge, Robert W. Lee, M.D., Fort Dodge, Roy O. Sebek, M.D., Fort Dodge, and Richard C. Tripp, M.D., Fort Dodge
Woodbury: James E. Reeder, Jr., M.D., Sioux City
Wright: Robert C. Eaton, M.D., Clarion, and Glenn J. Hruska, M.D., Belmond

The speaker presented information on the reference committee hearings, the balloting procedures and the concluding session of the House.

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SUMMARY OF 1983 HOUSE OF DELEGATES

MAY 1 SESSION

Registered for the May 1 session of the House were 156 delegates and 11 ex officio members. The minutes of the April 30 session of the House were read and approved.

Mrs. James C. Donahue, immediate past president, Iowa Medical Society Auxiliary, commented on her year in office.

The following physicians were announced as having been elected or reelected to the positions noted:

President-elect	John E. Tyrrell, M.D., Manchester
Vice President	R. Bruce Trimble, M.D., Mason City
Speaker of the House	Lynn D. Caraway, M.D., Amana
Vice Speaker	William C. Rosenfeld, M.D., Mason City
Trustee (3-year term)	Dennis J. Walter, M.D., Des Moines
AMA Delegate (2-year term)	John R. Anderson, M.D., Boone
AMA Alternate Delegate (2-year term)	Donald C. Young, M.D., Des Moines
Councilors	Robert L. Kent, M.D., Burlington (1) Warren V. Wulfekuhler, M.D., Mason City (5) Sidney A. Smith, M.D., Oskaloosa (7) Enfred E. Linder, M.D., Ogden (11)

Highlights and actions of the Reference Committee reports are summarized as follows:

Reference Committee on Reports of Officers and Articles of Incorporation and Bylaws — E. L. Kerns, M.D., Carol Aschenbrener, M.D., John Gay, M.D., A. M. Dolan, M.D., and Stephen Richards, D.O.

House Action: Acknowledged significant leadership given to the medical profession in Iowa by the IMS Board of Trustees, and complimented the Board for submitting the unique report entitled, "1983 Iowa Medical Society Credo of Principle and Philosophy," to the House. Directed the Board of Trustees to distribute this document to member physicians and other interested parties with an appropriate foreword. Instructed the Board to request individual physicians and county medical societies to review the document during the year and discuss it as fully as possible with the

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PICTURE HIGHLIGHTS OF 1983 HOUSE OF DELEGATES

These scenes are from the April 30-May 1 IMS House of Delegates held in Des Moines: (1) New IMS President Erling Larson, right, receives the president's medallion from retiring Society President Hormoz Rassekh. (2) Clarence H. Denser, Jr., M.D., Des Moines, right, accepts the 1983 IMS Merit Award from retiring board chairman, John E. Tyrrell, M.D., Manchester. (3) 12 of 25 new IMS Life Members are pictured. (4) Reference Committee on Medical Service & Miscellaneous Business, seated, from left, Peter Stephens, M.D., Davenport, C. L. Dagle, M.D., Fort Dodge, and Marian Barnes, M.D., Cedar Rapids. Standing, from left, Donald Soll, M.D., Denison, and John McGee, M.D., Burlington. (5) Reference Committee on Legislation, seated, from left, Peter Reiter, M.D., Ottumwa, and A. G. Chanco, Jr., M.D., Mason City. Standing, from left, Louis Banitt, M.D., Ames, Dorothy Gildea, M.D., Davenport, and L. W. Goetz, M.D., Creston. (6) Reference Committee on Reports of Officers & Incorporation and Bylaws, seated, from left, Carol Ashenbrener, M.D., Iowa City, and E. L. Kerns, M.D., Davenport. Standing, from left, A. M. Dolan, M.D., Waterloo, Stephen Richards, D.O., Algona, and John Gay, M.D., Des Moines. (7) 1983 John Sanford Award being presented to Eldon Huston, executive vice-president of the Iowa Medical Society, by President Hormoz Rassekh, as Mrs. Huston looks on. (8) Frank Jirka, M.D., Barrington, Ill., AMA president, addresses the House of Delegates. (9) Dale Wyrick, left, receives the Washington Freeman Peck Award on behalf of the University of Iowa Foundation. (10) Dean John Eckstein, M.D., U. of I. College of Medicine, left, accepts AMA-ERF check from IMS board chairman John E. Tyrrell, M.D., Manchester. (11) New IMS board includes, seated, from left, Dennis Walter, M.D., Des Moines, trustee; Emmett Mathiasen, M.D., Council Bluffs, trustee and board chairman, and R. Bruce Trimble, M.D., Mason City, vice-president. Standing, from left, Hormoz Rassekh, M.D., Council Bluffs, immediate past-president; Erling Larson, M.D., Davenport, president; John Tyrrell, M.D., Manchester, president-elect, and George Baker, M.D., Iowa City, trustee and secretary/treasurer. (12) Marion E. Alberts, M.D., Des Moines, scientific editor of the IMS JOURNAL, shown right, accepts Sandoz Pharmaceuticals Journalism Award from Gary Keim, a company representative. (13) Mrs. Jan Donahue, Davenport, 1982-83 IMS Auxiliary president, reports to the House. (14) IMS past-presidents James Bishop, M.D., Davenport; Paul Seebohm, M.D., Iowa City; William Bliss, M.D., Ames, and Russell Gerard, M.D., Waterloo, tend the ballot box. (15) E. E. Linder, M.D., Ogden, Blue Shield board chairman, presents report to the House. (16) An Iowa Foundation for Medical Care update given by Robert Pfaff, M.D., Dubuque, IFMC president.

SUMMARY OF 1983 HOUSE OF DELEGATES

thought of submitting additional or modifying language for consideration by the 1984 House of Delegates.

House Action: Approved retention of IMS dues for 1984 at their current level of $275, noting this is the seventh year without a dues increase; the Board of Trustees was lauded for its prudent allocation of Society funds.

House Action: Approved amendments to the Restated Articles of Incorporation and Bylaws eliminating liaison delegates and the liaison committee.

House Action: Approved an amendment to the Restated Articles of Incorporation and Bylaws changing one criterion for active membership from "physicians licensed in Iowa" to "physicians who meet Iowa licensure requirements."

House Action: Approved the addition of 3 councilor districts resulting in the addition by that number the membership of the Judicial and Executive Councils. New district lines and the election procedures to accomplish this change are to be submitted to the 1984 House of Delegates.

House Action: Rejected a resolution limiting terms on IMS councils and committees, excepting the offices of regular and alternate delegates to the AMA.

House Action: Requested redevelopment of the IMS committee organizational structure. The action was referred to the Executive Council with a plan requested from that body for consideration by the 1984 House of Delegates.

House Action: Approved holding the 1984 meeting of the Nominating Committee by telephone conference. Ample advance notice is to be given the full membership that such conference will occur. Any request from any councilor district that the telephone conference be replaced by an actual physical meeting at IMS headquarters is to be honored. This change in procedure also was referred to the Standing Committee on Articles of Incorporation and Bylaws so that an appropriate change in the governing language of the Society can be prepared to make the provision permanent.

House Action: Reaffirmed the position of the 1982 House of Delegates favoring annual physical examinations of Iowa high school athletes, and asked the Committee on Sports Medicine to continue its efforts to provide an environment for high school sports which is as safe and injury-free as possible.

House Action: Instructed the Board of Trustees to determine the need for an individualized study by the IMS of present and future medical manpower conditions. If determined appropriate by that body, this matter should be referred to the Committee on Delivery of Health Services for appraisal and possible development of a study plan to be submitted either to the Executive Council or 1984 House of Delegates.

House Action: Affirmed an IMS policy which assigns extreme importance to the prevention, identification, and treatment of alcohol and drug abuse. Asked the IMS to institute under this policy an active education program to help member physicians recognize and understand (1) the extent of the problem, and (2) those practices which are appropriate to follow when prescribing addictive substances in a contemporary medical practice. The IMS is to act as a catalyst to bring together the Board of Medical Examiners, Board of Pharmacy Examiners, Iowa Pharmacists Association, Iowa Department of Substance Abuse, and other interested entities to examine ways of reducing the lowest practical point the misdirection and misuse of controlled substances in Iowa. Following probable referral by the Board of Trustees to the Committee on Alcoholism and Drug Abuse, this Committee will submit to the Executive Council a plan for implementation.

House Action: Authorized the IMS to designate a committee to study the incidence of, reasons for, and preventive measures to reduce suicide among those incarcerated in Iowa county jails. The recommendations which are developed are to be transmitted to the Iowa county sheriffs and county medical societies to help assure adequate evaluation and management of these problems.

House Action: Encouraged IMS Committee on Member Services to continue to evaluate various health care coverages for member physicians as to their scope of benefits and financial soundness.

SUMMARY OF 1983 HOUSE OF DELEGATES

House Action: Directed the IMS delegates to the American Medical Association to work toward appropriate action by the AMA on the issue of the prevention of nuclear war, doing this in the manner they deem appropriate during sessions of the AMA House of Delegates.

Reference Committee on Medical Service and Miscellaneous Business — C. L. Dagle, M.D., Marian Barnes, M.D., John McGee, M.D., Donald Soll, M.D., and Peter Stephens, M.D.

House Action: Referred to the IMS Committee on Medical Service for further study and consultation with third party payors a resolution which requested the IMS to encourage third parties to offer payment for diabetes management, control, regulation, and education programs in both inpatient and/or outpatient units.

House Action: Authorized the IMS to notify all members of the current policy on acquiring and financing rabies vaccine. The IMS Committee on Emergency Medical Services is to continue meeting with representatives of the Iowa State Department of Health to ensure Iowa physicians are able to obtain rabies vaccine in the most beneficial manner.

House Action: Instructed IMS to strongly encourage all third party payors, including Blue Shield, to accept separate billing for all radiologic and pathologic services when requested by a hospital and the radiologist or pathologist, as the case may be.

House Action: Directed the IMS to notify members regarding a recent action taken by the AMA Board of Trustees proposing the use of terminology "medical staff" instead of "organized staff" in revisions to the Joint Commission Accreditation of Hospitals' ACCREDITATION MANUAL FOR HOSPITALS.

House Action: Asked the IMS Committee on Medical Services to scrutinize and evaluate the pros and cons of liaison with Blue Shield, and report this to the IMS Board of Trustees, with a subsequent full report to the 1984 House of Delegates.

House Action: Instructed the IMS to encourage the Iowa Foundation for Medical Care to study the current mechanism for doing telephone review with the thought of making appropriate changes to facilitate better communications. In addition, the IMS is to ask the IFMC to evaluate continually its system of review so that it does not lose sight of the primary goal of ensuring quality of care.

Reference Committee on Legislation — A. G. Chanco, Jr., M.D., Louis Banitt, M.D., Dorothy Gildea, M.D., L. W. Goetz, M.D., and Peter Reiter, M.D.

House Action: Reaffirmed opposition in the granting of prescription writing authority to physicians' assistants.

House Action: Instructed the appropriate committee of the IMS to study the need for state legislation in Iowa to allow the administration of epinephrine by laypersons in emergency situations.

House Action: Reaffirmed support for the passage of legislation requiring the use of effective restraint systems for all motor vehicle passengers of age four years and under.

House Action: Encouraged the IMS to support efforts (1) to educate the public on the need for small children to be appropriately restrained when riding in motor vehicles, and (2) to establish local programs to make approved child restraint systems available on a loan basis.

House Action: Asked the appropriate IMS Committee to review existing law with respect to physicians serving on the boards of publicly owned hospitals and report to the House of Delegates if deemed appropriate.

House Action: Directed the appropriate IMS committee to study the implementation of Section 147.138 of the Iowa Code requiring trial courts to determine the reasonableness of contingency fee arrangements and to seek appropriate changes in the implementation of this law if necessary.

House Action: Authorized the IMS to support existing representation on the Board of Medical Examiners as provided in Section 147.14(2) of the Iowa Code.

QUESTIONS - ANSWERS

HOSPITAL COMMENTS ON PROPOSED LICENSING LAW

Answers by the Iowa Hospital Association to the following several questions amount to a position statement by the IHA on legislation proposed by the State Department of Health to rewrite the 36-year old Iowa hospital licensing law. The position of the ISDH on this subject appeared in the April IMS Journal.

What is the matter with the present hospital licensing law?

The Iowa State Department of Health (ISDH) believes the existing law is ineffective and needs to be entirely rewritten. Iowa hospitals disagree. The existing hospital licensing law has served Iowans for the past 36 years.

The hospital licensure law does need updating. As one example, the provision for a Hill-Burton Advisory Council is now obsolete. Four years ago, the Iowa Hospital Association (IHA) worked with the ISDH to propose amendments in the present law that would remove obsolescences while preserving the basic hospital licensure framework that has served the public interest well. We were near agreement on those amendments when discussions were discontinued by the ISDH. We were unaware of the Department's intent to completely rewrite the law until the proposed draft was circulated to the public last summer.

We are at a loss to understand the Department's rationale for proposing the sweeping changes that would be effected by the proposed licensure law, and are equally concerned about the costs attendant to the new law's implementation and operation. At a time of heightened public concern about hospital costs, the new law would add increased costs and administrative burdens to hospital care, without a corresponding increase in benefit to the public.

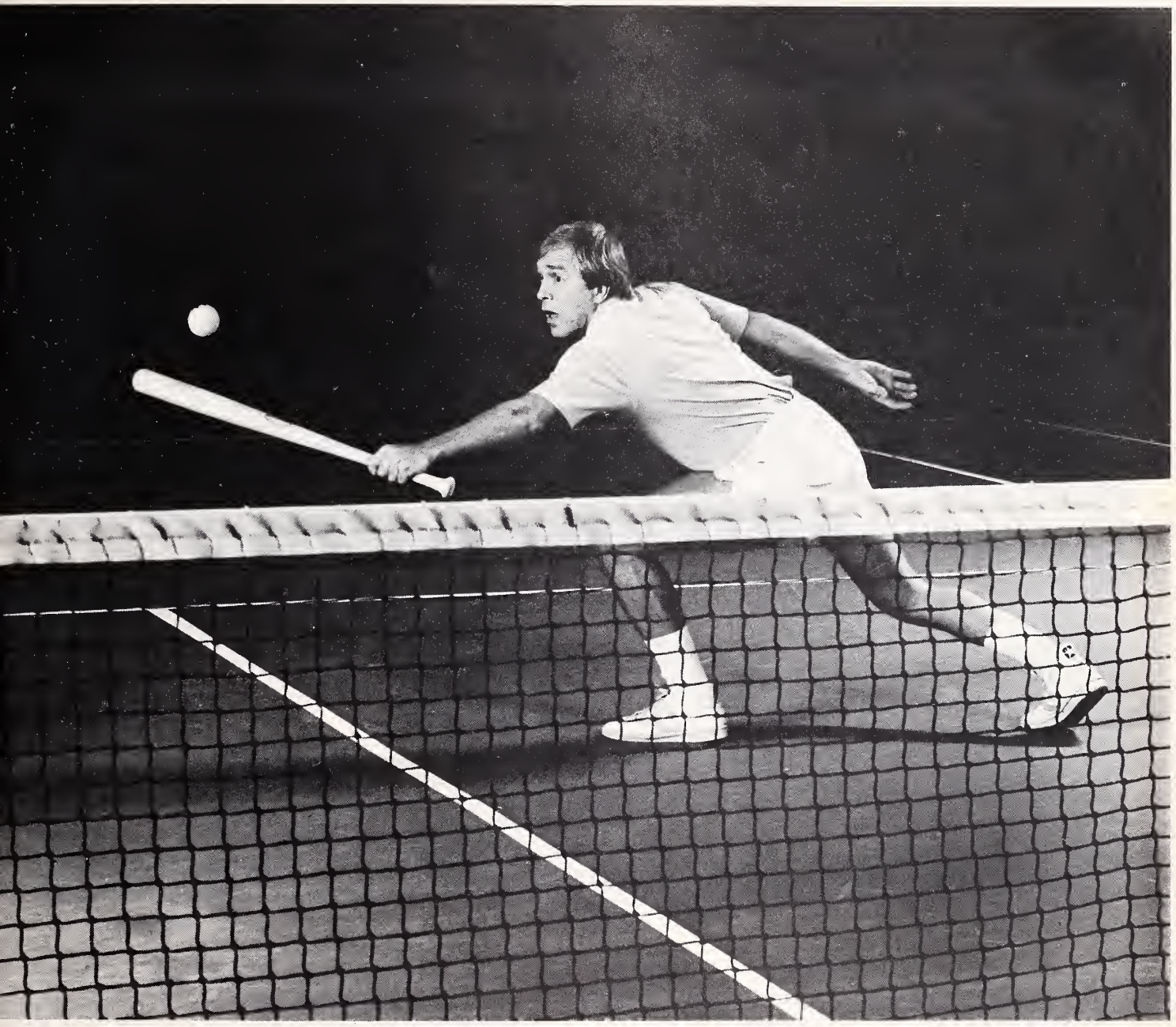
What problems are there with the present law?

ISDH states a number of grievances:

- The ISDH believes there should be a provision for representation of health professionals and consumer groups on the hospital advisory board. We agree. And we have proposed an amendment to the existing law that would create a 9-member hospital licensing advisory board that would be comprised of four hospital administrators nominated by the IHA, 3 health professionals nominated by various professional associations, and 2 consumer members. Their role would be to consult with and advise the ISDH on matters of policy affecting administration of the statute, and provide professional expertise in the development of rules and standards authorized by the statute.
- The ISDH believes the existing law is vague, commenting that only one sentence in the law refers to hospital inspections and is silent as to the scope of the Department's authority to make inspections. Because there is no clear mandate for strong State regulation of hospitals, the Department implies there are no standards at all to regulate Iowa hospitals and no provisions for investigating complaints against hospitals. That is misleading.

Hospitals operate in a heavily regulated environment. Medicare regulations provide that state or local health agencies be used to certify that institutional providers of care meet the conditions of participation that are set forth by the federal government. Failure to meet the conditions of participation results in termination of Medicare reimbursement. It should be noted that when the Medicare law was enacted, Congress expressed confidence in the Joint Commission on Accreditation of Hospitals (JCAH) and the American Osteopathic Association (AOA) and the health care sector itself to voluntarily assess the quality of care

(Please turn to page 277)



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THINGS YOU SHOULD KNOW

FP RESIDENTS LOCATING

This is the time when residents generally complete their training and take up new assignments. Of the 58 physicians coming out of the Iowa Family Practice Residency Network, about half, as has been typical, will be locating in the state. About half of the half will be in communities under 10,000 in population.

MEDICAID CARRIER

System Development Corporation (SDC) begins a new 3-year contract for the Iowa Medicaid program this month. The State Department of Social Services reports satisfaction with the administrative effort of SDC, moreover, the SDC bid for a second 3-year contract was lowest. Few provider complaints about SDC have reached the DSS.

IFMC MEETS WITH CONGRESSMEN

Citing a desire to strengthen political support for medical peer review, officials of the Iowa Foundation for Medical Care have met recently with Iowa Congressmen Cooper Evans, Tom Tauke and Tom Harkin. Discussions with these Iowa lawmakers have covered PRO legislation, funding prospects and other peer review matters. Foundation sessions with other of the Iowa legislators are expected.

IMS/AETNA AUDIT IN PROCESS

Now in process is an independent review of the IMS/Aetna Liability Insurance Program. This examination of the 7-year program is being done by the Victor O. Schinnerer Company, a Chicago consulting firm. The audit was recommended by the IMS Medico-Legal Committee and approved by the Board of Trustees. Just over 1,200 IMS members are insured under the program.

CLAIM REVIEW PANELS

Two claim review panels occurred in June under the IMS/Aetna Liability Insurance Program. Through the years several hundred physicians have served on these panels and have gained important insights regarding medical malpractice. Selected claims brought against IMS/Aetna insureds are reviewed in depth at the panels.

AVIS DISCOUNT UP

Car rental discounts available to IMS member physicians have been boosted by 5% since the new Avis card was distributed with the June UPDATE. This added discount will automatically factor into the rates when a car rental occurs. Members desiring cards may contact IMS headquarters.

IOWA AMA PREXY HAS TALK SHOW

Donovan Ward, M.D., Iowa's past-president of the American Medical Association, is host of a weekly radio talk show (Fridays from 1:05 to 2 p.m.) on Station KDTH in Dubuque. The program is called Health Line and is reported to be producing good question/answer discussion.

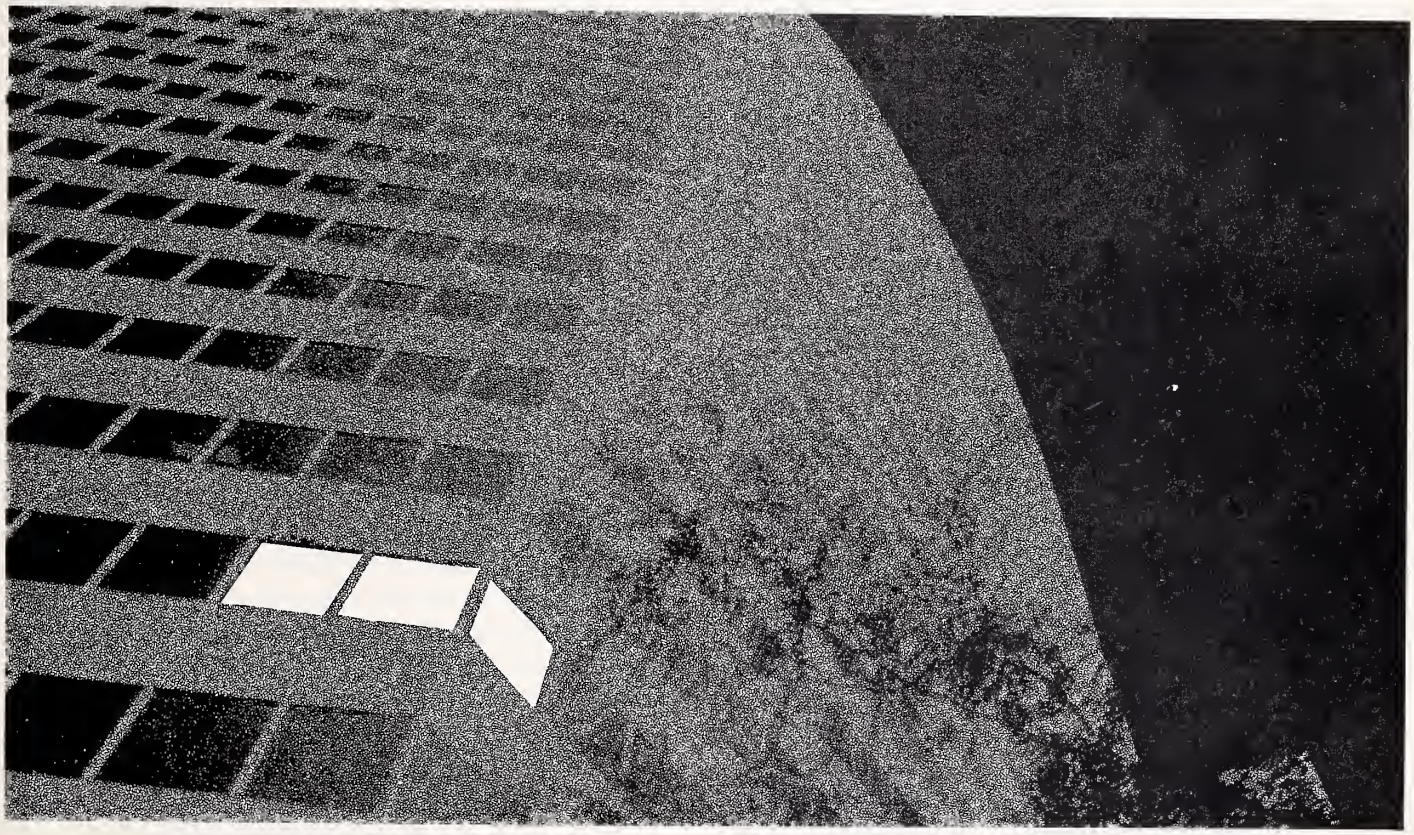
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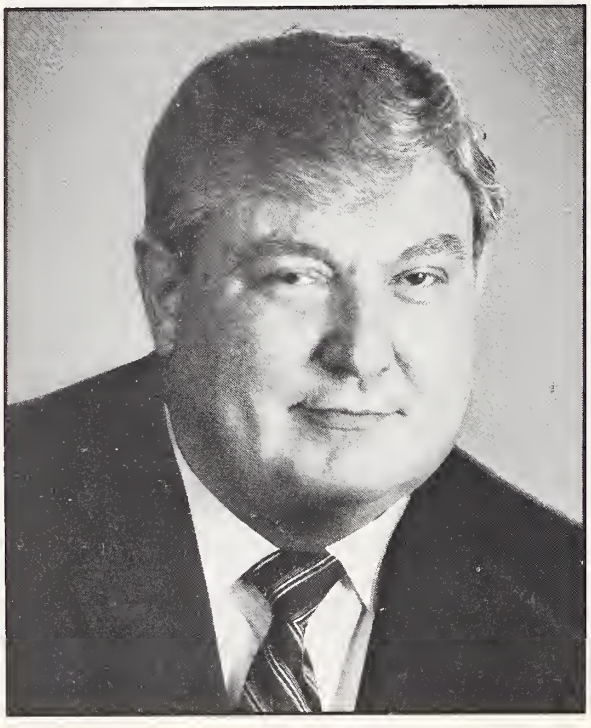
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Intramural Gastric Arterial Malformation

B. K. WASILJEW, M.D., and
SHIONG S. LEE, M.D.
Mason City, Iowa

An interesting case of submucosal arterial malformation of the stomach is described. The use of arteriography is supported as a worthy diagnostic approach in this instance after previous operative efforts were unable to resolve the hemorrhagic condition.

In a small number of patients, the cause of massive upper gastrointestinal hemorrhage may be difficult to diagnose, even at surgery. Arteriography has helped identify an unusual vascular lesion of the stomach and has led to appropriate treatment. Historically, this lesion has been undiagnosed and associated with high mortality. The case reported may increase awareness of this lesion and prompt earlier arteriographic evaluation in similar cases.

CASE REPORT

A 40-year-old Caucasian woman was admitted to the North Iowa Medical Center with gastrointestinal bleeding. At 30 years of age the patient had a life-threatening upper gastrointestinal hemorrhage for which she was explored on an emergency basis. A pyloroplasty, gastrotomy and wedge excision of possible gastric intramural aneurysm were performed. Histology revealed part of a normal arterial wall within the specimen. Six months later the patient bled again but no source could be found. Five years later she bled again and underwent vagotomy and antrectomy at another hospital. Histologic diagnosis was ulcerative gastritis at that time. One year prior to this admission another episode of bleeding occurred with severe anemia noted. The patient was treated conservatively by her local physicians.

Physical examination revealed a pale, middle-aged woman in no acute distress. Her vital signs were stable. The abdomen was soft and nontender with two well-healed upper abdominal incisions. Stool was dark and guaiac positive. Nasogastric tube aspirate was clear. The hemoglobin was 7 gm/dl. Transfusions were given and upper endoscopy was performed. It revealed fresh blood in the proximal stomach remnant but none distally at normal gastroduodenal anastomosis. There were no ulcers and no bleeding site in the stomach or esophagus. There was, however, a reddish submucosal nodule which was not pulsatile or bleeding in the proximal stomach.

An upper gastrointestinal series confirmed the presence of a 1-2 cm convex nodule on the posterior gastric wall and no other abnormalities. Selective celiac arteriography revealed multiple ("too numerous to count") small aneurysms coming off the branches of splenic, short gastric and left gastric arteries. (Figure 1)

The authors are associated with North Iowa Medical Center and St. Joseph Mercy Hospital in Mason City, Iowa.

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Figure 1 — Multiple ("too numerous to count") aneurysms of splenic, short gastric and left gastric arteries.

There were no early filling veins. The other major intraabdominal arteries were normal.

This patient rebled while in the hospital and was transfused in preparation for urgent surgery. She underwent 90% gastrectomy without difficulty. Her postoperative course was uncomplicated. She resumed oral intake quickly and was discharged from the hospital on the ninth postoperative day. She is well 6 months later.



Figure 2 — Engorged arteries and veins in the submucosa of gastric wall (VVG stain × 430).

Gross examination of the resected gastric specimen revealed prominent mucosal rugae with multiple petechiae particularly along the lesser curvature. There were neither ulcers nor saccular aneurysms on the mucosal surface. Histologically, chronic hypertrophic gastritis with focal hemorrhagic superficial erosions was noted in the mucosa. There were multifocal cirsoid engorged vessels in the submucosa. These vessels were composed of tortuous arteries and veins interwoven in irregular fashion. The arteries were especially striking for their size, many times that of the arterial channels normally seen in this location; and for their well-defined 3 layers of larger muscular arteries. The intima showed mild thickening, yet the media was conspicuously thickened by fibro-muscular hyperplasia. Proliferation of elastic fibers in the subintima and reduplication of internal elastic lamina were shown on Verhoff's elastic stain. (Figure 2) Monckeberg's medical calcifications were occasionally discerned; however, there was no evidence of arteritis or aneurysmal defect. The venous channels disclosed no significant histopathology except congestion and engorgement.

COMMENT

This uncommon entity was first described by Gallard in 1884.[1] Since then over two dozen cases have been documented. Most recorded cases have occurred in men.[2] The average age has been in the mid 50's, although patients as young as 24 have been reported. All patients presented with massive upper gastrointestinal bleeding with fatal outcome in the majority despite aggressive surgical management.[3] Many times the correct diagnosis was made only at autopsy.

The lesion usually could not be identified by barium studies of the stomach or gross examination at the time of surgery. Such was true in this patient. This woman was treated medically and surgically for peptic ulcer disease for 10 years, yet no ulcers were ever documented. Not surprisingly, her treatment was unsuccessful despite confirmed completeness of vagotomy and antrectomy and no evidence of a gastrinoma. Clearly, angiography was the key to the diagnosis as it revealed the interest-

ing vascular lesion and indicated the treatment required.

It has been described in various reports as submucosal arterial malformation,[3] venocapillary ectasia,[4] and gastric intramural aneurysms.[5, 6] As in our case, the specimens uniformly demonstrated tiny mucosal erosions and underlying unusually large, tortuous submucosal arteries. No evidence of peptic ulceration, arteritis, arteriosclerotic aneurysm was seen. Other portions of the gastrointestinal tract have not been involved by this lesion.

It is believed that these are not arteriosclerotic aneurysms but rather congenital vascular malformation which in time undergo secondary arteriosclerotic changes.[7, 8] It is not known why these malformations do not manifest themselves earlier in life. Treatment is by adequate gastric resection.

SUMMARY

A patient with submucosal arterial malformation of the stomach is presented. This lesion was responsible for several massive hemorrhages over many years and led to two previous operations. The diagnosis was made by arteriography and treatment accomplished by gastric resection. The features of this potentially lethal pathologic entity are discussed in light of the available literature. More frequent use of arteriography may reveal this lesion to be much more common than expected.

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Falsely Elevated Serum Creatinine Levels In Diabetic Ketoacidosis

MARGARET A. ECKSTEIN, M.D. and
CHARLES M. HELMS, M.D., Ph.D.

Fifty adult and 50 pediatric patients with diabetic ketoacidosis are reviewed as to serum creatinine values. False elevation of the serum creatinine in diabetic ketoacidosis was common in both populations. The median creatinine level on admission in adult patients was 2.9 mg/dl and in children was 1.9 mg/dl. The ranges in adults with and without nephropathy were overlapping, but a level greater than 5.7 mg/dl was seen only in patients with underlying nephropathy.

DIABETIC KETOACIDOSIS (DKA) is a life threatening and not infrequent complication of diabetes mellitus. Since the introduction of insulin therapy, the case-fatality rate in DKA has dropped dramatically and in recent years newer modes of administering insulin in DKA have been introduced.

DKA continues to be a common cause of admission to University of Iowa Hospitals and Clinics. Indeed, between July 1966 and November 1980 there were 465 DKA admissions to University Hospitals, an average of about 34 per year. The University Hospitals experience with DKA has been reviewed recently with particular emphasis on the frequency of artefactual elevation of the serum creatinine value. Brief observations are presented as a result of that review.

From the Division of General Medicine, Department of Internal Medicine, University of Iowa Hospitals and Clinics. Dr. Helms is an associate professor. Dr. Eckstein is affiliated with the Euclid Clinic Foundation in Euclid, Ohio.

METHODS

The medical records of 50 adults (patients ≥ 18 years) and 50 children (< 18 years) were selected for review from a computer-generated list of DKA discharge diagnoses.

Criteria applied for the diagnosis of DKA were ketonemia, hyperglycemia (blood glucose ≥ 150 mg/dl), blood CO_2-combining power of less than 15 mEq/liter, and arterial pH of less than 7.35. Using these criteria there were 65 adult admissions for DKA and 54 pediatric admissions for DKA from the 50 patients in each group. Clinical and laboratory records of all patients were reviewed and information transferred to flow sheets for analysis.

RESULTS

Diabetic Populations Examined. The mean ages of adult and pediatric diabetic groups were 35 and 10 years, respectively. Females outnumbered males in both diabetic populations examined. In the adult group the female to male ratio was 30:20 (1.5:1.0) and in the pediatric group 32:18 (1.8:1.0). There was no significant difference between the number of DKA admissions per male and female in either age group.

Of the 50 adult patients admitted with DKA, 14 (28%) had diabetic complications. There were 12 patients (24%) with uncharacterized retinopathy, 9 (18%) with neuropathy, 8 (16%) with a previous diagnosis of nephropathy and 5 (10%) with peripheral vascular disease. Patients with diabetic complications had diabetes mellitus for a median of 20 years (range 6-47 years). Those without complications had a median duration of diabetes of 8 years (range 0-40 years). There were no diabetic complications noted in the 50 patients admitted who were less than 18 years of age. Diabetes had been present a median of two years (range 0-16 years) in this age group.

No significant differences in duration or severity of DKA between adult and pediatric groups were detected. The median durations of symptoms of DKA prior to hospitalization of the two groups were similar: 48 hours (range 4 hrs to 28 days) in the adult group and 36 hours (range 12 hrs to 14 days) in the pediatric group. The degrees of acidosis on presentation in the two groups were also comparable: the median arterial pH for adults was 7.19 (range 6.80-7.34) and for the pediatric group was 7.13 (range 6.78-7.34). Lastly, the severity of hyperglycemia in the two groups was similar: the median blood glucose for adults was 596 (range 150-1460) and for the pediatric group was 459 (range 155-990).

"There was no significant difference noted in the creatinine levels of those patients with diabetes present for less than or greater than three years."

Two patients in each age group died for a case-fatality rate of 4%.

Renal Function. The admission serum creatinine values of the DKA patients were reviewed to determine whether the admission level was predictive of underlying nephropathy. The results are shown in the table. The median value of the 61 adult admissions in which serum creatinine was known was 2.9 mg/dl (normal up to 1.4 mg/dl). There were 11 admissions of patients known to have nephropathy and 50 admissions of those felt not to have nephropathy. The median creatinine in the former group (4.1 mg/dl) was greater than that of the latter (2.7 mg/dl). Similarly, the median BUN value of the group with nephropathy (60 mg/dl) was greater than that of the group without nephropathy (29 mg/dl). Although the range of creatinine values in both groups was overlapping, an admission serum creatinine determination in excess of 5.7 mg/dl was not seen in patients without underlying diabetic nephropathy. The median discharge creatinine in the group with nephropathy was 2.0 mg/dl and in those without nephropathy was 0.8 mg/dl.

TABLE 1
ADMISSION CREATININE VALUES IN EPISODES OF DIABETIC KETOACIDOSIS

	No. of Episodes	Median Cr mg/dl (range)
Adult Group		
All Episodes	61	2.9 (1.0-5.7)
Patients with Nephropathy	11	4.1 (2.8-17.3)
Patients without Nephropathy	50	2.7 (1.0-5.7)
Pediatric Group		
All Episodes	44	1.9 (1.4-4.0)
Diabetes for < 3 years	26	1.9 (1.4-3.9)
> 3 years	19	2.4 (1.4-4.0)

In the pediatric group the median serum creatinine value on admission was 1.9 mg/dl with a range of 1.4 to 4.0 mg/dl. Underlying nephropathy was not recognized in any of these patients. There was no significant difference noted in the creatinine levels of those patients with diabetes present for less than or greater than three years. The median pediatric creatinine level present upon discharge was 0.9 mg/dl.

DISCUSSION

The majority of patients with DKA admitted to University Hospitals have remarkable elevations of serum creatinine levels. Since volume

(Please turn to page 274)

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replacement and electrolyte balance are crucial aspects of the management of DKA, along with insulin therapy, it is important that the physician know the likelihood of underlying renal disease in a given case. It is recognized that patients with DKA generally have some degree of volume depletion, and a modest elevation of serum creatinine and BUN levels is to be expected. However, at times, the creatinine level seems elevated out of proportion to that which one would expect with simple prerenal azotemia of volume depletion. In these cases it is likely that acetoacetate in the serum interferes with the creatinine assay leading to false elevations.[1] Therefore, one must be careful not to diagnose renal insufficiency on the basis of an admission creatinine value in DKA, particularly in the pediatric age group. Based on our findings in adults, it would appear that an admission serum creatinine value greater than 6 mg/dl should be viewed as indicating probable underlying nephropathy in the setting of DKA.

ACKNOWLEDGMENT

The authors express their gratitude to Drs. Robert Bar, Robert Hardin, Barry Sherman and Robert Thompson for their helpful criticism of the manuscript.

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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

NURSING DIAGNOSIS

A REGISTERED NURSE is a person who is licensed by the Board to do all of the following: "Formulate nursing diagnosis and conduct nursing treatment of human responses to actual or potential health problems through services, such as case finding, referral, health teaching, counseling, and care provision which is supportive to or restorative of life and well-being." This excerpt is from Chapter 152, Practice of Nursing, of the Iowa Code. Further, in this section, *nursing diagnosis* is described as follows: "to identify and use discriminatory judgment concerning physical and psychosocial signs and symptoms essential to determining effective nursing intervention."

The term *nursing diagnosis* is not new. The concept was introduced 30 years ago. It was then considered a creative approach to nursing. As the concept evolved it became a more concise term, i.e., *nursing diagnosis* was used in describing the handling of an actual or potential health problem existing within a client/family situation. It evolves from the term nursing assessment. It requires nursing action, excluding the prescribing of drugs, surgery, radiation, and other treatments that are defined legally as the practice of medicine.

Further development of the term *nursing diagnosis* began in 1973 following the First National Conference in Classification of Nursing Diagnoses. This conference was intended to help identify the nurse's role in the ambulatory-care setting and what clinical problems could be computerized for dissemination to all interested nurses.

The nursing profession always has sought to identify patient problems. In 1953 Vera Fry was bold enough to use the term *nursing diagnosis*. She challenged nurses to individualize care by using information related to a specific patient. As time passed, more and more states revised their nurse practice acts to provide expanded roles for registered nurses. These broadened practice acts brought a greater realization among the nurses of their legal responsibilities. Hence, the National Conferences came into being; the fifth of these having been held in 1982. These have had an international impact; the Canadian nurses already being involved very actively.

"Nurses, by tradition, have been regarded too often as the handmaidens of the medical profession. The legal responsibilities of the nurse are broadening, and the wise physician will soon realize the nurse of the future will work with and not for the medical profession."

Wars have had marked impact upon change. The contributions of Florence Nightingale during the Crimean War developed a realization that the patient had to be considered in relationship to the total interactions within the environment. There had to be a total commitment to the whole person and his living conditions. Great strides were made in medical and nursing care during subsequent wars. These strides have emphasized the total needs of the patient. Complexities of medical care placed the nurse in a more vital role of assessment and active consideration of human responses to health problems.

How the concept of nursing diagnosis will be used in direct patient care is of interest to all involved. Record keeping is a way of life in the health professions. Physicians are much more involved in recording patient data than two or three decades ago. In 1969 the concept of "problem oriented recording" came into being. This was stimulated by Laurence Weed, a physician who was concerned with the poor quality of medical records. His concepts of good medical recording produced the well-known S.O.A.P. data base now used quite universally. This format fits well into the nurse's recording of her diagnosis. The days of the

(Continued from page 275)
narrative "nurses notes" are numbered. A modified "Kardex" will become a quick reference to the problems of the patient and will correlate with etiologic factors, followed by a listing of interventions (active and proposed).

"Should the nurse be authorized to write orders for further nursing action, over and above the physician's order?"

All this is not totally accepted by many nurses as well as physicians. Nurses, by tradition, have been regarded too often as the handmaidens of the medical profession. The legal responsibilities of the nurse are broadening, and the wise physician will soon realize the nurse of the future will work *with* and not *for* the medical profession.

The *nursing diagnosis* concerns itself with health problems which can be minimized or alleviated by nursing action, while the medical diagnosis concerns itself with pathological-disease states involving various body systems, causing symptoms to be recognized and treated to effect a cure. In reading through the nursing journals, it is obvious that there are some nurses who are more enthusiastic about this concept. For example, the physician may be bound by utilization review committees who decide "the time is up . . . patient must be discharged from the hospital," while the nurse may feel the patient needs more nursing care re feeding, walking, incontinence, etc. There must be a meeting of the minds of the two professions for the good of the patient.

Utilization reviews must face this concern as well; and that includes a realization by third-party payers of the complexity of total patient care. The question then arises: Should the nurse be authorized to write orders for further nursing action, over and above the physician's order? Certainly the nurse's assessments may add to the total care of the patient.

It is obvious that nursing is truly a profession. Nurses have been given the right and the responsibility to perform their form of diagnosis. The nurse of today and tomorrow will be educated to utilize critical thinking skills to analyze problems. As actual and potential altered health states are identified, the nurse will intervene within the scope of his/her practice to preserve and/or restore optimum health. As physicians, we must realize these new concepts are part of nursing. We need to support those upon whom our patients depend.

I urge all physicians to learn now about what is meant by *nursing diagnosis*. Learn from your nurses what accepted nursing diagnoses are. I would suggest offering the nursing staff an opportunity to meet with the medical staff to have meaningful dialogue about this very useful and exciting concept. There is nothing to fear except ignorance of how important the nursing profession is to the total care of our patients. — M.E.A.

COURTESY PAYS

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DO THESE EXAMPLES seem familiar to you? Telephone manners are as important as good manners any place that two persons must communicate. In the first instance, the telephone should be answered, "This is Dr. Spoofenheimer's office; Mary speaking." In the second instance, the receiving person is just as busy as the caller. The caller should be on the telephone when it is answered.

This is a message from your IMS Public Relations Committee. Try harder to be nice. — M.E.A.

QUESTIONS/ANSWERS

(Continued from page 264)

being provided. The JCAH and AOA accrediting processes were so generally well regarded that the Medicare legislation provides that hospitals accredited by these bodies would be automatically "deemed" to be in compliance with the federal Medicare conditions of participation for hospitals. Much more than being mere educational and consultation programs, as described by the ISDH, these accrediting organizations seek to establish and maintain high standards of quality for the operation of hospitals and other health related facilities and services. Their track record over the years has been excellent. Complaints against hospitals whose standards have fallen below those required in the Medicare conditions of participation are referred to the U.S. Department of Health and Human Services, and are investigated in Iowa by the ISDH itself. Termination of Medicare reimbursement for failure to meet the conditions of participation is a strong compliance incentive in a state where over 13% of the population is eligible for Medicare benefits.

Iowa hospitals believe that with Medicare standards applicable to all Iowa hospitals, and with the Iowa Foundation for Medical Care assuring the appropriateness and quality of care in every Iowa hospital, adequate protection of the public health is now assured without additional quality assurance regulation under an expanded state hospital licensure law.

What problems are there with the proposed hospital licensure law?

The hospitals of Iowa and the IHA have expressed concern about numerous provisions in the proposed hospital licensing law. Some of the major concerns include the following:

- Certification of special services, such as long term care, that traditionally have been an integral part of an institutional license represents major administrative problems and cost burdens for hospitals, without a corresponding increase in benefit to the public.
- The ISDH would be empowered to write rules establishing minimum standards governing virtually every facet of every service, from physical facilities to staffing requirements; from procedures, including medical and nursing procedures, to personnel qualifications, including medical staff qualifications. We believe such authority would be an unacceptable intrusion into the management of hospitals and the practice of medicine, as would be a number of other items for which rulemaking would be authorized by the proposed law.
- There is no provision for inspection by or recognition of accreditation by the JCAH or the AOA in the proposed licensure law.
- We believe the classes of violations and citations and the inspection and summary powers are an inappropriate application of Iowa's nursing home laws and regulations to the acute hospital setting. Large portions of Chapter 136C, Iowa's nursing home statute, have been placed with little or no modification in the proposed new hospital licensing law. The premise on which such an action is based — that the problems and solutions applicable to long term care facilities are equally applicable to acute care hospitals — is simply faulty. The problems that the legislation and regulation intended to address in nursing homes are not present to any degree in acute care hospitals. All Iowa hospitals are publicly-owned or church-related or nonprofit community institutions. Physicians are in the hospital daily directing care to be provided, assuring as the patient's advocate that safety and quality are paramount concerns.
- Hospitals are concerned about both the legal and practical aspects of unannounced inspections where there is no probable cause to believe a violation exists, about meeting our obligations to protect the confidentiality of the patient's record of care and treatment, and about the intrusion of the State into the personal privacy of the patient and the hospital/patient/physician relationship.
- There is no provision for a hospital licensing advisory board.

There are other areas in the proposed statute that are troublesome to Iowa's hospitals. However, discussions are continuing between members and staff of the IHA and ISDH staff. It is our hope that communication will lead to understanding, and that the issues can be resolved in the best interests of the public served by both hospitals and the Iowa State Department of Health.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

NIFEDIPINE

NIFEDIPINE, a dihydropyridine derivative, is a member of the class of drugs called calcium antagonists or calcium channel blockers. Since its marketing, it has gained widespread clinical use. The purpose of this article is to review briefly some of the literature pertinent to the use of nifedipine. We will consider the mechanism of action, pharmacokinetics, evidence for efficacy, adverse effects, dosage recommendations, and cost.

MECHANISM OF ACTION

Calcium has a number of physiologic functions, including key roles in the generation of the action potential and in excitation-contraction coupling. The action potential is initiated by a fast inward sodium current. After the cell is depolarized from about −90mV to about −40mV, a second slower inward current produces the plateau phase of the action potential. Influx of calcium, and to a lesser extent sodium, is responsible for this phase. In the myocardium this inward current of calcium triggers the release of sequestered intracellular calcium which binds to a regulatory protein, troponin C, which activates tropomyosin, allowing actin and myosin to interact and contraction to occur. In vascular smooth muscle the role of calcium influx is similar, though the regulatory sequence is different. The calcium channel blockers act to alter the inward flux of calcium.

The common actions of the calcium blockers include a vasodilator effect, and negative inotropic, chronotropic, and dromotropic (slowing of conduction) effects. These occur in isolated tissues and some are offset by reflex mechanisms. The major effect of nifedipine is vasodilation. A mild reflex increase in pulse occurs, but myocardial oxygen consumption is decreased overall. The negative inotropic effect is outweighed by increased sympathetic tone and vasodilation so that cardiac output is moderately increased in normal man. There is no discernable effect on A-V node conduction or S-A node automaticity at therapeutic doses.

In contrast, verapamil has more prominent negative inotropic effects and also causes marked changes in A-V node conduction, leading to its utility in treating supraventricular tachyarrhythmias. It is also a potent vasodilator. Diltiazem is probably intermediate in negative inotropic, chronotropic, and dromotropic effects and is also a vasodilator.[1]

PHARMACOKINETICS

Nifedipine is well absorbed after oral administration with systemic bioavailability of 65% due to first pass extraction by the liver. Onset of action is within 20 minutes, with an elimination half-life of approximately 5 hours. It is 90% bound to plasma proteins. It is extensively metabolized to inactive forms; about 80% of a given dose is excreted (mainly as metabolites) by the kidney, 15% by the gastrointestinal tract.[1]

EFFICACY

Nifedipine is approved by the FDA for use in vasospastic (variant) angina, and in chronic stable angina refractory to maximum tolerated doses of beta adrenergic receptor blockers and nitrates. It is also probably effective in unstable angina and hypertension.

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

VASOSPASTIC ANGINA

The most widely accepted use for nifedipine is in the treatment of vasospastic angina, although placebo-controlled clinical trials are lacking. In a multicenter study using historical controls, nifedipine in an average daily dose of 64 mg daily abolished angina in 63% of 127 patients with vasospastic angina which was uncontrolled by conventional therapy. Mean weekly rate of angina decreased from 16 to 2 ($p < .001$) with a similar decrease in nitroglycerin consumption.[2]

Two double-blind placebo-controlled trials have compared subjective responses to nifedipine vs. isosorbide dinitrate in 12 and 19 patients with coronary artery spasm. Neither demonstrated a clear advantage of nifedipine over isosorbide dinitrate with regard to angina frequency or nitroglycerin consumption.[3, 4] Nifedipine was preferred because of fewer side effects in one study.[3] Whether the combination provides any additional benefit is unanswered.

STABLE ANGINA

Nifedipine is also useful in chronic stable (exertional) angina refractory to standard therapy. Preliminary results from a multicenter double-blind placebo-controlled trial involving a total of 66 patients in 3 treatment groups (2 groups receiving higher average doses of 53 and 51 mg/day and 1 receiving 30 mg/day) showed a statistically significant decrease of angina with nifedipine over that with placebo in all groups. Nitroglycerin consumption also decreased, but this reached statistical significance in only the 30 mg/day group. Time and workload to onset of angina increased statistically significantly in the 2 groups receiving higher average doses, but not with 30 mg/day. Total duration of exercise increased statistically significantly only in the group receiving 51 mg/day.[5]

In another double-blind study in which 10 mg nifedipine or placebo was administered sublingually to 30 persons with chronic stable angina who underwent graded exercise testing, nifedipine abolished angina during exercise testing in 40%. Of those who did get angina, time to onset of angina and duration of exercise increased modestly but statistically significantly. Time to onset of ST segment depression increased, but this apparently did not reach statistical significance. The double product (heart rate times blood pressure) at onset of angina did not increase.[6] This is in keeping with the findings of most authors and supports the suggestion that the mechanism of action of nifedipine in exertional angina is by decreasing oxygen demand (by decreasing peripheral vascular resistance) rather than by increasing oxygen supply.

The comparative effects of nifedipine, propranolol, and the combination have been studied by several groups. One placebo-controlled, double-blind study in 16 patients with chronic stable angina compared nifedipine, 30 and 60 mg per day with propranolol 240 and 480 mg per day. Frequency of chest pain, nitroglycerin consumption, and ST segment depression seen in ambulatory monitoring decreased with all treatments. Propranolol in either dose was more effective than nifedipine, and the combination was more effective still.[7]

A randomized double-blind crossover trial with 32 patients with chronic stable angina compared antianginal actions of verapamil (120 mg 3 times daily) with nifedipine (20 mg 3 times daily). Verapamil was more effective in increasing exercise tolerance and time required to onset of ST depression during exercise testing, and in decreasing ST segment changes and nitroglycerin consumption during ambulatory monitoring. Verapamil caused a mild resting bradycardia and a reduction in exercise-induced tachycardia in contrast with a mild tachycardia induced by nifedipine.[8] Another study in 16 patients found the 2 treatments of equal efficacy in reducing anginal attacks, nitroglycerin consumption, and total ST segment depression but verapamil was associated with fewer side effects.[9]

UNSTABLE ANGINA

Nifedipine may also be efficacious, when added to conventional treatment, for unstable angina, particularly in the subset of patients with ST segment elevation with pain.[10]

HYPERTENSION

Nifedipine causes vasodilation and a fall in blood pressure both acutely and chronically. This effect seems to be more striking in hypertensive than normotensive persons. Postural hypotension, sodium retention, or tolerance have not been found.[11]

(Please turn to page 280)

DRUG THERAPY REVIEW

(Continued from page 279)

OTHERS

Nifedipine therapy has been suggested for a myriad of other conditions. Among these are congestive heart failure, primary pulmonary hypertension, hypertrophic cardiomyopathy, Raynaud's phenomenon, cerebral artery spasm, exercise-induced asthma, dysmenorrhea, esophageal spasm, and myocardial preservation following ischemia during surgery or infarction. Although nifedipine may ultimately prove useful for some of these, adequate information is not currently available.

ADVERSE EFFECTS

Nifedipine has in general been well tolerated. A review of the safety of nifedipine in 3,081 angina patients receiving nifedipine in various clinical trials has been published. Adverse experiences reported with the most frequency (> 5%) were dizziness, pedal edema, gastrointestinal distress, headache, flushing or paresthesias, and weakness. More serious possible adverse effects were hypotension (3.4%), preinfarction angina or MI (3.2%), CHF (1.3%), angina (1.2%), TIA or CVA (.3%).[12]

There has been concern over the concomitant use of beta blockers and nifedipine because of reports of acute congestive heart failure, serious hypotension, or worsened angina with this combination. General experience, however, has been favorable. Terry found no excess of adverse effects in persons taking both drugs.[12] However, caution should be used, and the patient monitored for changes in blood pressure and ventricular function. Nifedipine may be used with caution in persons with congestive heart failure. It is contraindicated in persons with known hypersensitivity.

DRUG INTERACTIONS

In preliminary reports nifedipine increased digoxin levels by an average of 45% in one group of 12 healthy subjects[13] but not in another 11 patients with coronary artery disease.[14]

DOSAGE/COST

The usual starting dose is 10 mg 3 times daily with the usual effective dose 10 to 20 mg 3 times daily. Some patients have responded to higher or more frequent doses. More than 180 mg daily is not recommended. Information on dosage adjustment for persons with hepatic or renal disease is not currently available. The cost is $17.50 per 100 10 mg capsules.

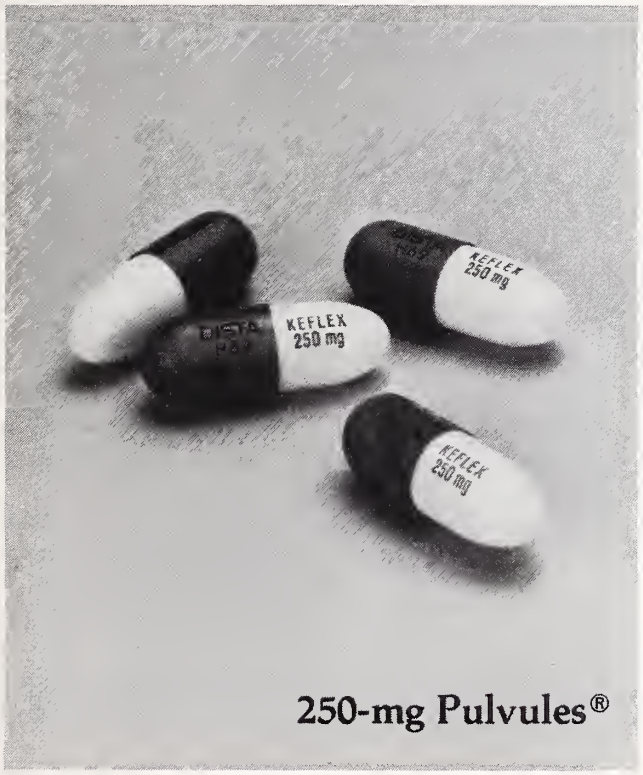
CONCLUSION

Nifedipine is probably an effective drug in the treatment of vasospastic angina, though it is not clearly superior to isosorbide dinitrate. The choice in an individual patient should depend on response, side effects, cost, and safety considerations. Nifedipine is a useful addition to the treatment of stable exertional angina, although it may not be as effective alone as propranolol or verapamil. Its use with beta blockers appears safe and the 2 are more effective in combination than either alone. Other promising potential indications for nifedipine are unstable angina and hypertension. — Linda Radomski, M.D., Fellow, Department of Internal Medicine and Michael J. Brody, Ph.D., Professor, Department of Pharmacology.

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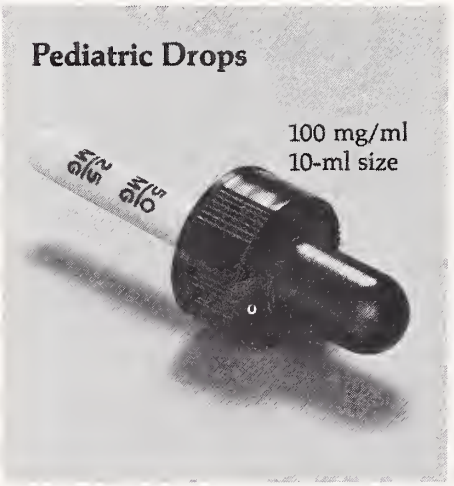
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STATE DEPARTMENT/ PUBLIC HEALTH

MEASLES — ERADICATION IN SIGHT?

In 1977, Iowa sustained the largest measles outbreak in 11 years, primarily in school age children. This episode underscored the value of earlier legislative attempts to require certain immunizations prior to school attendance. In response to this outbreak, the mandatory school immunization law passed in 1978 and became effective in 1979. Three years after the law's enactment, measles and rubella cases have reached all time lows and have changed the epidemiology of these diseases. Between 1979 and 1983 only 37 cases of measles were confirmed. Thirty were in high school children not covered by the state law and 6 were vaccine failures in families of the high school student cases. One occurred in a 9-month old who had visited Spain in the previous 14 days. Since June, 1980, no indigenous measles cases have occurred in Iowa thus eliminating what was considered a routine disease problem of school children.

What are the future implications? Can measles transmission be prevented in Iowa? It is probable that cases will continue to be imported into Iowa from time to time, via — foreign students, college students, and immigrants with small children. Also, despite current measures, there will be subgroups of susceptible individuals in the state. These include children not receiving routine medical care, persons for whom the vaccine is contraindicated, individuals who have received the vaccine incorrectly, persons exempted from the law requirements (i.e., religious waiver) and the 5 to 7 percent of the vaccinated group who routinely do not sero convert and are possibly susceptible.

We may assume children in school environments and child care centers are at minimal risk of measles exposure since 99 percent of the students, preschool through 11th grade, have immunization histories assuring protection for at least 95 percent. Additional data indicates preschool children, not enrolled in group settings, have higher immunization levels than earlier years and pose less risk of transmission. In addition, there is little probability of exposure in this population and even less probability that sufficient transmission could occur to sustain an outbreak. Therefore, isolated cases can be expected in this group but are not of epidemiological significance.

Colleges, universities, and the 11th and 12th grade high school student populations present a different and potentially more serious problem. Many of this cohort were immunized during the period when use of killed measles vaccine was common. Others received gamma globulin with their measles injection, which was recommended when using the Edmonston strain of measles vaccine (and later not advised when administering the further attenuated Morateu or Schwarz strains). Frequently, the amount of gamma globulin given exceeded the recommended dosage, which inactivated the vaccine virus. Finally, many immunizations were administered between 9 months and 12 months of age, when a high proportion of children still carried circulating maternal antibody for measles. While the recommendation to give measles injections after 12 months of age was changed as early as 1965 (and then to 15 months in 1976), many physicians persisted in immunizing children at less than 12 months into the late 1970's. Collectively, these factors indicate that a high percentage of college students remain susceptible to measles despite histories of immunization. The large measles outbreak on college campuses throughout the country during February and March 1983 support this judgment.

(Please turn to page 284)

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

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May 1983 Morbidity Report

Disease	May 1983 Total	1983 to Date	1982 to Date	Most May Cases Reported From These Counties
Amebiosis	5	22	40	Dallos, Johnson, Sioux
Brucellosis	0	0	1	
Chickenpox	1083	5115	5448	Scattered
Compylobocter	18	73	80	Scattered
Cytomegolovirus	1	7	18	Woodbury
Eoton's Agent infection	3	98	97	Johnson, Polk, Scott
Encepholitis, virol	2	18	9	Clinton, Dubuque
Erythemo infectiosum	0	25	184	
Gostroenteritis (GIV)	152	8068	7726	Scattered
Giordiosis	8	69	41	Chickosow, Dollos, Foyette, Polk
Hepotitis, A	3	17	41	Dubuque, Woodbury
Hepotitis, B	8	35	41	Cloyton, Homilton, Polk, Scott, Toylor Wopello
Hepotitis, Non A-B	4	21	7	Cloy, Dubuque, Linn, Webster
Hepotitis type unspecified	2	6	12	Cerro Gordo, Clorke
Herpes Simplex	87	423	142	Scattered
Herpes Zoster	0	6	9	
Histoplosmosis	0	10	13	
Infectious mononucleosis	10	102	186	Adoms, Benton, Block Howk, Dollos, Floyd, Linn, Polk
Influenzo, lob confirmed	21	100	67	Scattered
Influenzo-like illness (URI)	3329	27376	25800	Scattered
Legionellosis	2	0	13	Homilton, Polk
Molorio	0	2	0	
Meningitis oseptic	5	26	11	Cloyton, Dubuque, Jones, Lee, Polk
bocteriol	16	73	23	Scattered
meningococcol	2	11	5	Polk, Scott
Mumps	4	35	27	Cloy, Clinton, Polk
Pertussis	0	4	3	
Robies in onimols	25	103	166	Scattered
Reye Syndrome	0	0	0	
Rheumotic Fever	0	0	3	
Rubello (Germon meosles)	0	0	0	
Meosles	0	0	0	
Solmonellosis	27	81	118	Scattered
Shigellosis	1	12	21	Greene
Toxic Shock Syndrome	3	9	7	Polk, Wopello
Tuberculosis totol ill	0	32	43	
boct. pos.	0	26	32	
Typhoid Fever	0	0	0	
Venereol diseoses:				
Gonorrheo	347	1838	1917	Scattered
Syphilis	0	4	14	

Loborotory Virus Diognosis Without Specified Clinicol Syndrome: Rotrovirus — 2, Clinton, 2, Dubuque, 1, Polk; Clonorchiosis — 2, Lee, 2, Polk.

STATE DEPARTMENT/ PUBLIC HEALTH

(Continued from page 282)

Containment of an outbreak is an expensive, time-consuming activity. It is estimated that the recent Indiana University outbreak cost the college, state, students, and federal government over $500,000 to control. Fortunately, Iowa has been spared college associated measles outbreaks. However, there is no evidence to suggest this is due to high immune levels, but rather lack of case introduction and secondary exposure. The best protection lies in screening immunization histories of students and selectively revaccinating potential susceptibles.

To prevent an outbreak from occurring in Iowa colleges, we strongly urge the following screening steps and immunization measures:

*1. Primary immunization in those who never received a measles vaccine.**

2. Revaccinate all students under age 26 who:
- *a. received a measles vaccine prior to 1969*
- *b. received a measles vaccine prior to 12 months of age*
- *c. received a measles vaccine with concomitant administration of gamma globulin.*

3. Require new students to present proof of immunity prior to registering, as is required in primary and secondary schools.

4. Report by telephone all measles cases, suspect measles cases, unexplained rash illnesses to the local and/or State Health Department on the day of visit. Be certain that acute and convalescent bloods are drawn on all of the above and submitted to the University Hygienic Laboratory for confirmation.

Each reported clinical case will be investigated by our field staff followed by control measures when appropriate. This would include determining the source of transmission and identifying exposed susceptibles followed by selective vaccination.

* Children who have had measles are immune. However, many "measles" cases have been misdiagnosed by phone. There is no documented risk in vaccinating natural immunes in early adulthood. This policy will assure protection in the 15-20 percent of cases where measles was misdiagnosed. Serological identification of susceptibles by screening is not practical or cost effective.

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A two-day continuing education program in Oncology for primary care physicians will be held at Holling Education Center, Immanuel Medical Center, September 8-9, 1983. This program is designed to enhance physicians' diagnosis, treatment and follow-up skills in dealing with the most prevalent oncology diagnoses. Continuing Medical Education (CME) credits are offered for participation in the program.

Spouses are invited to participate in special activities; participants and faculty will enjoy an evening of Dinner Theater together on Thursday, September 8. Participants are housed at the beautiful new Immanuel Plaza Motel on the Medical Center campus.

An agenda for the two-day program is as follows:

First Day

Introduction to Cancer
John B. Davis, M.D.
Principles and Treatment of Cancer:
Radiation Oncology
Chemotherapy
David J. Harter, M.D.
Herbert A. Hartman, Jr., M.D.
Imaging Modalities
Paul Bender, M.D.*
W. Benton Copple, M.D.*
Primary Oncologic Emergencies
John Hoesing, M.D.
Colon Cancer Update
Mark Christensen, M.D.
Skin Tumor, Diagnosis and Treatment
John F. Latenser, M.D.
Lung Cancer Update
Leonard Moss, M.D.
David J. Harter, M.D.
The Role of the Family Physician in the Treatment of Cancer
Ronald C. Bell, M.D.
Tour of Radiation Oncology

Second Day

Tumor Conference
John B. Davis, M.D., Moderator
Panel — Medical Staff representing Hematology, Medical Oncology, Pathology, Gynecology, Surgery, Radiology, Urology, General Family Practice, Internal Medicine
Gynecologic Tumor
Leon S. McGoogan, M.D.*
Terrence J. Kolbeck, M.D.*
Chronic Lymphatic Leukemia
John R. Feagler, M.D.
Multiple Myeloma
John R. Feagler, M.D.
Control of Pain in the Cancer Patient
David J. Harter, M.D.
Rehabilitation of the Cancer Patient
Stuart G. Oxford, M.D.
Breast Cancer Update
John B. Davis, M.D.
Cancer Screening in the Physician's Office
William A. Shiffermiller, M.D.
Prostatic Carcinoma
Stewart E. Sloan, M.D.*
Gerald C. Felt, M.D.*
Management of Therapy Complications
John R. Feagler, M.D.
David J. Harter, M.D.
Follow-Up of Cancer Patients
John B. Davis, M.D.

* Session presenter rotates for each Fellowship Program.

For more information on this or future Fellowships, contact Marion Kaple, Holling Education Center, Immanuel Medical Center, 6901 North 72nd Street, Omaha, Nebraska 68122, (402) 572-2340.

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BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g , where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCAROIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCAROIA

WARNINGS: Excessive Hypotension: Although in most patients the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on cuncomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated the physician should be aware of these potential problems and if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary pertusion associated with decreased diastolic pressure with increased heart rate or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis mutagenesis, impairment of fertility When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema nausea, weakness, headache and flushing each occurring in about 10% of patients transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally, the following have been reported muscle cramps, nervousness dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness sleep disturbances, blurred vision, difficulties in balance, dermatitis pruritus, urticaria, fever sweating chills, and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension

In addition more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible, however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase CPK LDH, SGOT, and SGPT have been noted and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCAROIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72) and unit dose (10x10) (NDC 0069-2600-41) The capsules should be protected from light and moisture and stored at controlled room temperature 59 to 77 F (15 to 25 C) in the manufacturer s original container

More detailed professional information available on request

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Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
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ABOUT IOWA PHYSICIANS

The University of Iowa Children's Hospital recently was renamed to honor the late **Dr. Arthur Steindler,** who pioneered the treatment of crippled children. Dr. Steindler founded the U. of I. Department of Orthopedic Surgery in 1915 and directed its growth until his retirement in 1948. He was largely responsible for the design of Children's Hospital and for obtaining financial support for its construction. . . . **Drs. Terrence McCormally** and **Katherine Cole** recently began family practice in Wapello. Dr. McCormally received the M.D. degree at the U. of I. College of Medicine; Dr. Cole at the University of Kentucky Medical School. Both completed their family practice residencies at the U. of I. . . . **Dr. Richard Schoonover,** Bloomfield, recently was presented a plaque by the Davis County Hospital acknowledging his 30 years of service, dedication of medicine and contributions to the community, medical staff and hospital. Dr. Schoonover received the M.D. degree at Belleview Hospital Medical School of New York University. He joined the Gilfillan Clinic in Bloomfield in 1946. . . . The Immediate Care Medical Center in Cedar Rapids, organized by **Dr. John Banks,** opened in April. In addition to Dr. Banks, **Drs. Donald Hilliard; Ronald W. Miller; Alan C. Robb; Sheila R. Solmonson; L. Michael Lawrence** and **William Kettlekamp** will practice at the center. All physicians will also maintain their present private practices. . . . **Dr. Alda L. Knight** has joined the Mater Clinic Professional Corporation in Knoxville. Dr. Knight received the M.D. degree at the U. of I. College of Medicine. She had an internal medicine residency at Iowa Methodist

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Medical Center and Veterans Administration Hospital in Des Moines. For the past 4 years, she has been the director of internal medicine at Broadlawns Medical Center in Des Moines and a faculty member of the U. of I. . . . **Dr. J. S. Sangha, Carl J. Richards** and **Lawrence M. Nicholas,** all Waterloo physicians, were program participants at the annual meeting of the Iowa Society of Medical Technology in Waterloo. . . . **Dr. Glenn J. Hruska,** Belmond physician for over 36 years, recently was honored by the citizens of Belmond at a retirement party. A plaque was presented to Dr. Hruska citing his devotion to his patients and the Belmond community. . . . **Dr. Paul Bragg** and **Dr. Katharine Gillis** of London, Ontario, Canada, will begin practice in Oelwein in 1984. Dr. Bragg received his medical education at Memorial University in Newfoundland and interned in Halifax, Nova Scotia. He is currently serving a residency in anesthesia in London, Ontario, Canada. Dr. Gillis received her medical education at Memorial University in Newfoundland and is currently completing her internship at Western University in London, Ontario, Canada.

Twenty physicians on the staff at Mercy Hospital, who had practiced medicine in Council Bluffs for 25 years or more, were recently honored at an appreciation dinner. Active staff members honored were **Drs. Martyn H. Bierman; Charles V. Edwards, Jr.; Edward R. Farrage; Ralph L. Hopp; Lynn L. Leibel; Emmett B. Mathiasen; Darwin L. Moriarty; Gordon L. Neligh, Jr.; Lucy M. Radicia;** and **Harold F. Trafton,** all Council Bluffs physicians, and **Dr. Max E. Olsen,** Minden. Senior staff members honored were **Drs. William O. Griffith; Irving J. Hanssmann; John E. Krettek; Joseph G. Kruml; James Mahoney; Aileen E. Mathiasen; Arthur L. Sciortino,** and **Alroy G. West,** all Council Bluffs physicians, and **Dr. Rudolf A. Selo,** Omaha, Nebraska. . . . **Dr. Dennis L. Miller** recently began family practice in Bellevue. For the past five years, Dr. Miller has been associated with a clinic in Maquoketa.

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The following physicians were program participants at a recent education conference for physician's assistants — **Dr. J. D. Bell,** Des Moines, **Dr. Michael Kitchell,** Ames, **Dr. Alda Knight,** Knoxville, **Dr. Robert Potter,** Des Moines, **Dr. Rizwan Shah,** Des Moines, **Dr. Fred Strickland,** Des Moines and **Dr. LaVerne Wintermeyer,** Des Moines. Dr. Bell spoke on *Common Pediatric Orthopedic Problems;* Dr. Kitchell on *The Differential Diagnosis of Common Problems in Neurology;* Dr. Knight on *A Practical Approach to Chronic Renal Failure;* Dr. Potter on *The Workup of Common Ophthalmologic Problems;* Dr. Shah on *Evaluation of Short Stature in Pediatrics;* Dr. Strickland on *Office Evaluation of Abdominal Pain,* and Dr. Wintermeyer on *Update on Sexually Transmitted Diseases.* . . . **Dr. H. William Fischer** recently opened a family medical practice in Decorah. Dr. Fischer received the M.D. degree from the University of California and interned at Wayne County Hospital in Detroit, Michigan. He is currently the Luther College physician director of health services.

DEATHS

Dr. Carlyle C. Moore, 61, Emmetsburg, died May 12 at the Palo Alto County Hospital. Dr. Moore received the M.D. degree at the U. of I. College of Medicine. He began medical practice in Emmetsburg in 1952. Dr. Moore served as chief of staff of Palo Alto County Hospital from 1973 to 1979. He was a past president of the Palo Alto County Medical Society; past president of the Emmetsburg School Board and past president of the Emmetsburg Rotary Club. Dr. Moore was a member of the American Academy of Family Practice; charter member of the Board of Family Practice and a 25-year fellow of the American Academy of Family Practice. He was a recipient of the AMA Physician Recognition Award and Team Doctor Award presented by the Iowa High School Athletic Association. In 1982, the Palo Alto County Hospital Board of Trustees honored Dr. Moore for his 30 years of service to the hospital and the community.

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Dr. Richard Schoonover, 67, Bloomfield, died May 18 at the Davis County Hospital. Dr. Schoonover received the M.D. degree from Belleview Hospital Medical School at New York University; interned at Patterson General Hospital in Patterson, New York and served his urology residency at Roosevelt Hospital in New York. He joined the Gilfillan Clinic in Bloomfield in 1946.

Dr. Leo A. Gaukel, 75, longtime Onawa physician, died May 27. Dr. Gaukel received the M.D. degree at Creighton University School of Medicine and interned at Mercy Hospital in Council Bluffs. He began medical practice in Onawa in 1933. A park in Onawa was named in Dr. Gaukel's honor in 1974 in recognition of his 27 years as head of Onawa's park board. In 1976, Dr. Gaukel received the Iowa High School Athletic Association's Team Doctor award. He was a life member of the Iowa Medical Society.

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The Choice Looks Good

If 58 physicians are coming out of the Iowa Family Practice Residency Network now, *that's good*. If about 29 of these family doctors (or half) are set to work in Iowa, *that's good, too*. These early statistics compare closely with other recent years.

And like Kim Rettenmaier, M.D., about half of the new family physicians locating in Iowa are going to communities under 10,000. For Dr. Rettenmaier it's quite a bit under 10,000; Story City has about 2,000 citizens.

This 1983 alliance between a young physician, a long-existing clinic and an attractive north-central Iowa town has many positive factors. If the union between Dr. Rettenmaier and Story City is representative of new practice situations emerging elsewhere in Iowa this month and next, then however the selection process works it must be okay.

With 28-year-old Kim Rettenmaier, the prospect of coming to Story City began when he met Brian Heineman, D.O., of the Semler Clinic at the 1983 Iowa Family Practice Opportunities Fair. The chemistry among the physicians seemed right, the living conditions seemed ideal for Dr. Rettenmaier and his wife, and the economic opportunity was good.

Medicine has dominated much of Dr. Rettenmaier's short life. And, as he puts it, "I'm excited. I'm anxious to make the move and get started. The people of Story City seem friendly. It is a clean, well-kept community."

Dr. Rettenmaier has just finished a three-year residency at the Waterloo Family Practice Program. Is he concerned about leaving the larger medical facilities with its greater level of sophistication?

"We spent 12 weeks of our residency working in Vinton. It is a town not unlike Story City. So I believe I am prepared to adjust to a smaller setting. I will need to do more myself. I can't call a specialist quite so easily."

Dr. Rettenmaier will work in the attractive, but moderate-sized Semler Clinic. He will have patients in the 36-bed (25 acute beds) Story City Memorial Hospital. While meeting an important need, this small hospital represents a different pace from Waterloo.

The Story City practice will go with a lifestyle desired by the Rettenmaiers, who have been married a year. Wife, Janet, is a medical technologist with veterinarian ambitions. She is taking pre-vet work now; proximity to Iowa State University is good for that and for veterinary school if that enrollment is achieved.

Their fondness for animals lends itself to the Story City setting. They'll live in a large, older home on the town's edge with land sufficient to quarter their five Arabian horses and their Dalmatian puppy.

When asked about colleagues also finishing the Waterloo FP program, Dr. Rettenmaier said most are set. "Steve Parker is going to solo practice in Keosauqua; Andy Smith is joining a group in Guttenberg, Wayne Kelly is going to Winona, Minnesota, and our fifth resident has a little time left in Waterloo."

The talk of excess physician manpower hasn't caused too much apprehension, says Kim. Most of the Waterloo residents, if they are typical, are committed, he said, to Iowa or to the midwest. And, he added, there are still opportunities from which to choose.

As suggested earlier, medicine is engrained in the Rettenmaier family. Kim's grandfather was a Kansas general practitioner. Kim moved to Burlington at age 10 where his father, Ralph, practices pathology. His older brother, Mark, has a gynecologic oncology fellowship at the University of California (Irvine). His younger brother, Philip, is an osteopathic physician practicing in Wyoming.

The Story City Dr. Rettenmaier has undergraduate and medical degrees from the University of Iowa. He is in the fourth group to finish FP residencies in Waterloo. He will take his FP board exam July 8 and will begin work in Story City July 11.

We congratulate Charles Semler, D.O., Charles Semler, Jr., M.D., and Brian Heineman, D.O., for recruiting a bright new physician. And we congratulate Kim J. Rettenmaier, M.D., for choosing a practice site befitting his interests and lifestyle. We hope it will be good for all concerned.

July 1983

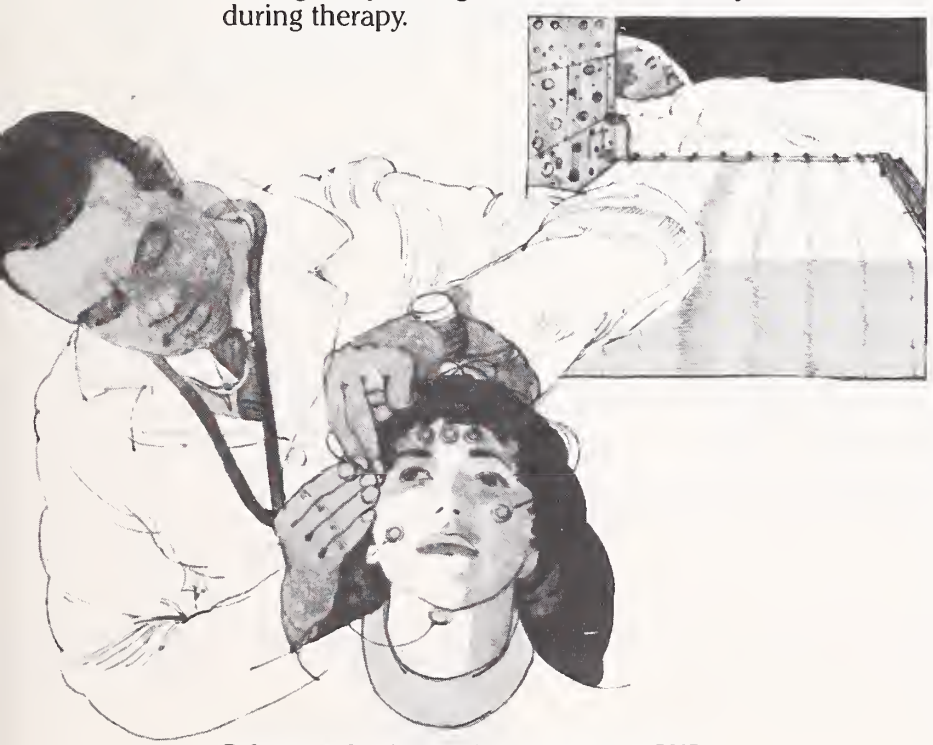
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JOURNAL OF THE
IOWA MEDICAL SOCIETY

AUGUST 1983/VOLUME 73 NUMBER 8

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ABOUT THE COVER — Our August cover calls prominent attention to a special 8-page supplement found inside. This supplement is entitled, These Are Our Beliefs, and contains seven statements of principle on health care subjects of prime importance at this time.



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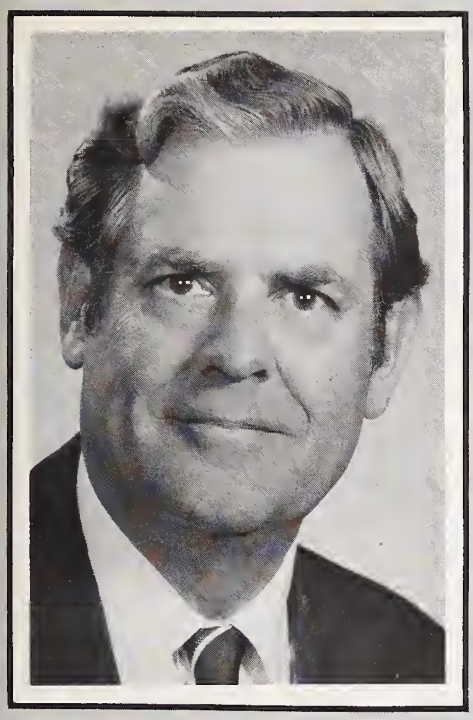
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PRESIDENT'S PRIVILEGE

A woman can do anything a man can do — except be a grandfather, maybe.

This thought of a 10-year-old youngster appeared in the *New York Times* a few years ago. It introduces humorously, but almost truthfully, my brief salute this month to the exactly 100, by recent count, women physicians who belong to the Iowa Medical Society. It's my intent this year to single out for praise, recognition — and for greater involvement (present and future) — these fine members of the Iowa medical profession.

That more distaff physicians are showing up in our medical ranks is a well-known fact. To substantiate this, let me point out that the 1982 entering medical class at the University of Iowa was 33.1% women; the year before it was 41.7%. In real numbers this is 58 and 73, respectively, in classes of 175.

The 5-year progression in percentage growth of U. of I. women medical students, from 1951-55 to 1975-80, is: 2.8%, 3.2%, 7.4%, 7.9%, 16.2% and 25.1%. These figures reflect what is happening nationally.

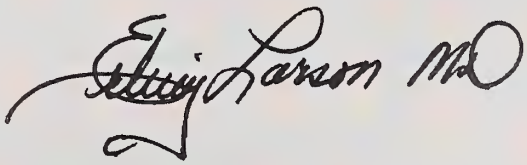
It is my contention these ladies, now and in years ahead, deserve more opportunity and responsibility within the organization of Iowa medicine. We need to encourage more participation like that of Dr. Dorothy Gildea of Davenport, who's on the State Board of Medical Examiners; like Dr. Beverly Robinson of Des Moines, who's recently joined the State Board of Health; like Dr. Marian Barnes of Cedar Rapids, who's been president of the Linn County Medical Society in a recent year. Obviously, others have held important jobs, these are simply ones I know of.

As Dr. Gildea, my fine Davenport colleague, puts it enthusiastically, "It is exciting for women to be part of medical practice; for men, maybe it is more matter of fact. As for Iowa as a place to practice, it is clean and wholesome. And we here in this state are just as current in our medical knowledge as they are elsewhere in the country."

So true!

Viva Dr. Gildea! Viva Iowa's lady physicians!

Let's support and encourage their participation! Let's challenge them! Let's involve them whenever possible!



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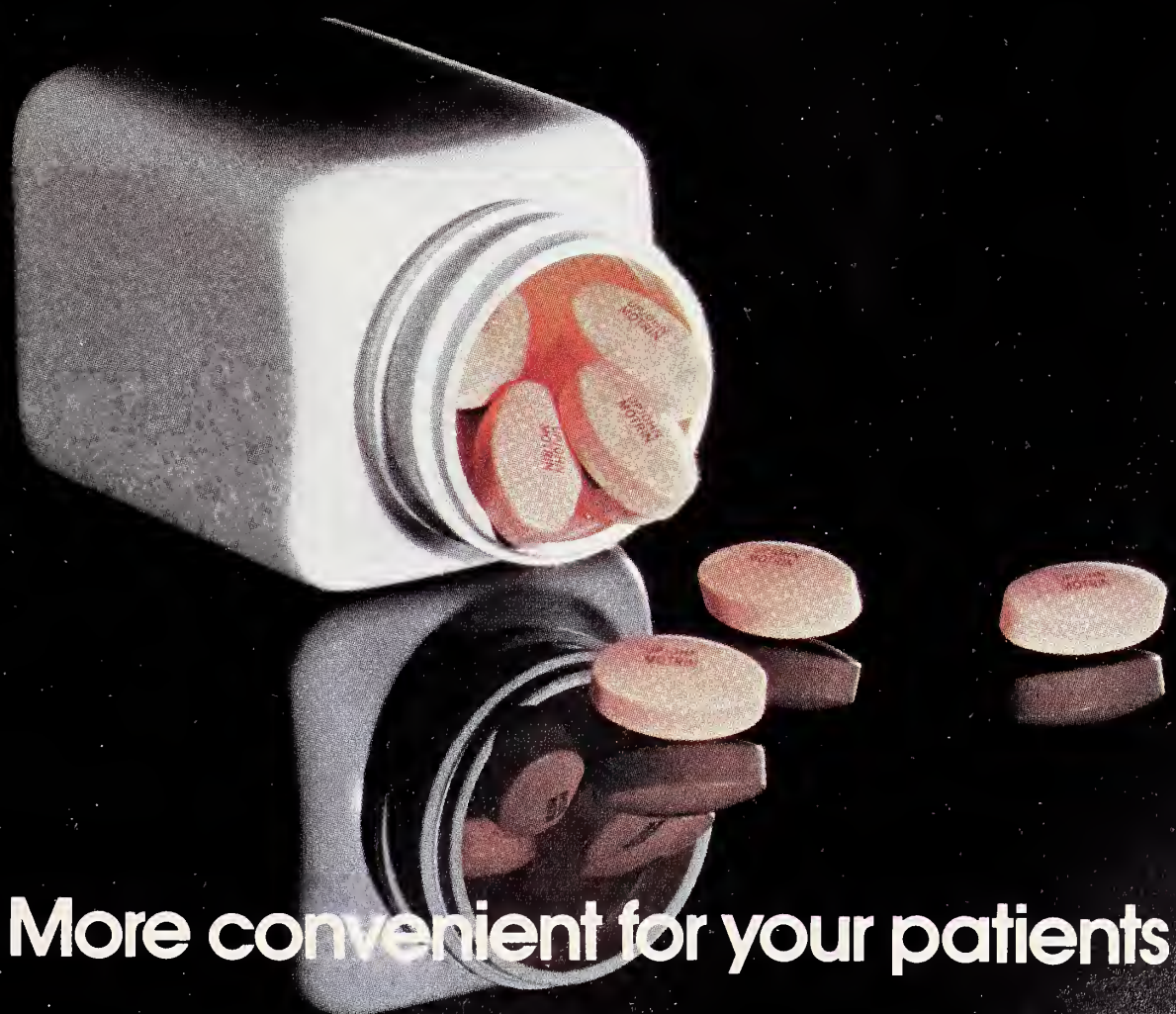
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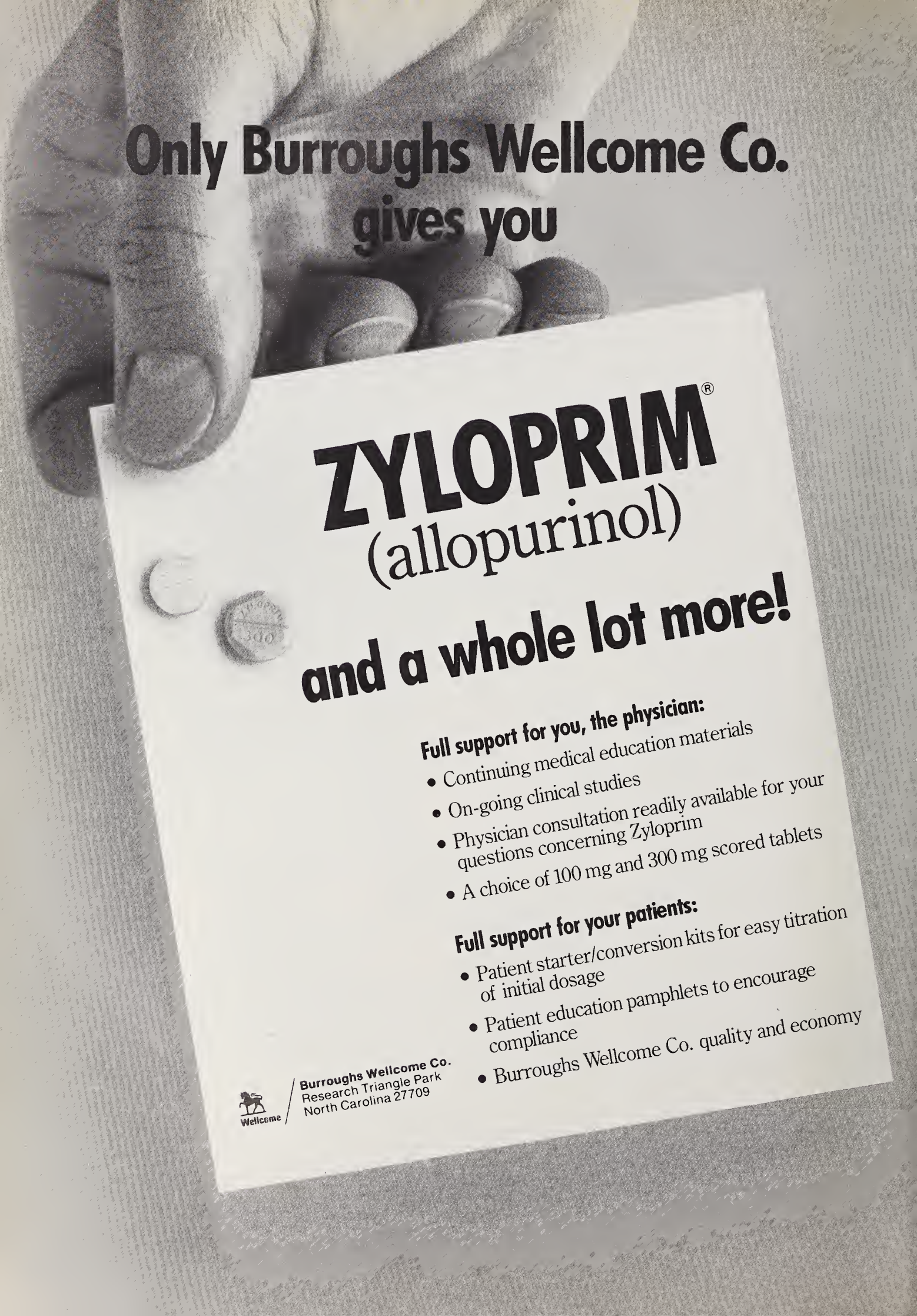
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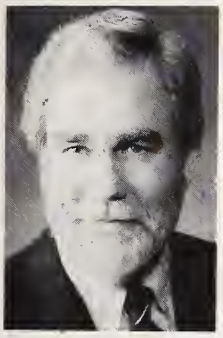
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QUESTIONS - ANSWERS

JOHN H. GAY, M.D.
Des Moines, Iowa

NEW HEALTH CARE DELIVERY SYSTEMS

Dr. Gay is the current president of the Polk County Medical Society. He comments here on the new approaches to health care delivery which are emerging in Des Moines.

Des Moines and central Iowa are seeing various new health care delivery approaches emerge. What do you make of it?

First let's identify some of these new systems or changes in central Iowa. Both an HMO and a PPO will be in place soon. Predictably, much breastbeating à la Tarzan style has preceded their appearance. Eventual degree of acceptance by the public and physicians is unknown and only speculative. A complex Blue Cross-Blue Shield sponsored plan, with intense and concerted physician input, is about to surface also. This Preferred Physicians Plan (PPP) may prove to have the widest appeal to physicians. "Immediate care" facilities, financed by hospitals and in direct competition with physicians in private practice, are popping up like mushrooms. And finally, hospital advertising campaigns in the mass media are becoming commonplace, encouraging patronage of their institutions.

What do I make of it? Unfortunately some may be more concerned with the economics of health care delivery than with the art and science of medicine. Consumers are rummaging for health care bargains, wanting more for less. Business leaders are squirming with delight. Physicians are pressured to make decisions about participation in these systems when there is no local track record. And how many physicians have had any experience with these plans? Very few. However, one of my colleagues wrote to me recently, "We should keep an open mind and seek out those challenging innovations that positively affect patient care."

Will it be good for Des Moines to have a multiplicity of health care options from which its residents may choose?

A qualified yes. Not all health care options will deliver quality care, not all will be administered effectively. Will central Iowa be a target for medical carpetbaggers, entrepreneurs, and opportunists at this time? I am afraid so. We should be very cautious and not hesitate to disclose the shoddy.

Apparently there is a satisfactory level of physician acceptance of these new alternatives. How would you characterize the general feeling of your colleagues?

Physician acceptance? Acquiescence laced with ambivalence and anxiety may be more accurate.

In view of what's happening, do you see the quality of care holding steady, improving, declining or what?

I am afraid the overall quality may decline because of the overemphasis on the financing of health care delivery. Yes, the cost of medical care is very high, but the emphasis on the economics of medicine is the new bully boy on the block, while considerations for quality of care have been quietly pushed aside. The defects in the traditional system ("you get more when you do more") are being replaced with the equally insidious ("you get more when you do less"). Skipping a test here and a surgery there under the guise of "cost effective" medicine may be dangerous to the health of countless patients. Very likely the quality of care for the rich and for the poor will be unaffected.

(Please turn to page 310)

THINGS YOU SHOULD KNOW

LCP RECRUITMENT DRIVE — One of the most crucial and most interesting jobs available to IMS members is that of Legislative Contact Physician. The LCP is the principal IMS communicator with his/her legislator on key health care issues. Full support and background info are supplied by IMS headquarters. To obtain more info on the job, or volunteer, please contact Tim Gibson at the Society.

IMS TRUSTEE BAKER LEAVES — George L. Baker, M.D., Iowa City, is resigning his position as IMS trustee/secretary-treasurer. Dr. Baker will become medical director, Mead Johnson Company, Evansville, Indiana, effective September 1. He is relinquishing duties as professor and associate dean at the U. of I. College of Medicine. The IMS Board must consider appointment of an interim successor to Dr. Baker.

DM HMO/IPA PROGRESSING — As this is prepared, the Blue Cross (of Des Moines) and Blue Shield boards have okayed participation in the implementation of a new Des Moines HMO/IPA. Start-up of the new coverage plan is hoped for before the end of the year. This HMO/IPA mechanism will be known as I-Care for the HMO segment. It will contract with the Preferred Physicians Plan (PPP) to deliver the IPA medical services. I-Care will furnish the administrative and marketing services. The participating PPP physicians will be paid 90% of their usual fee for services delivered to I-Care members.

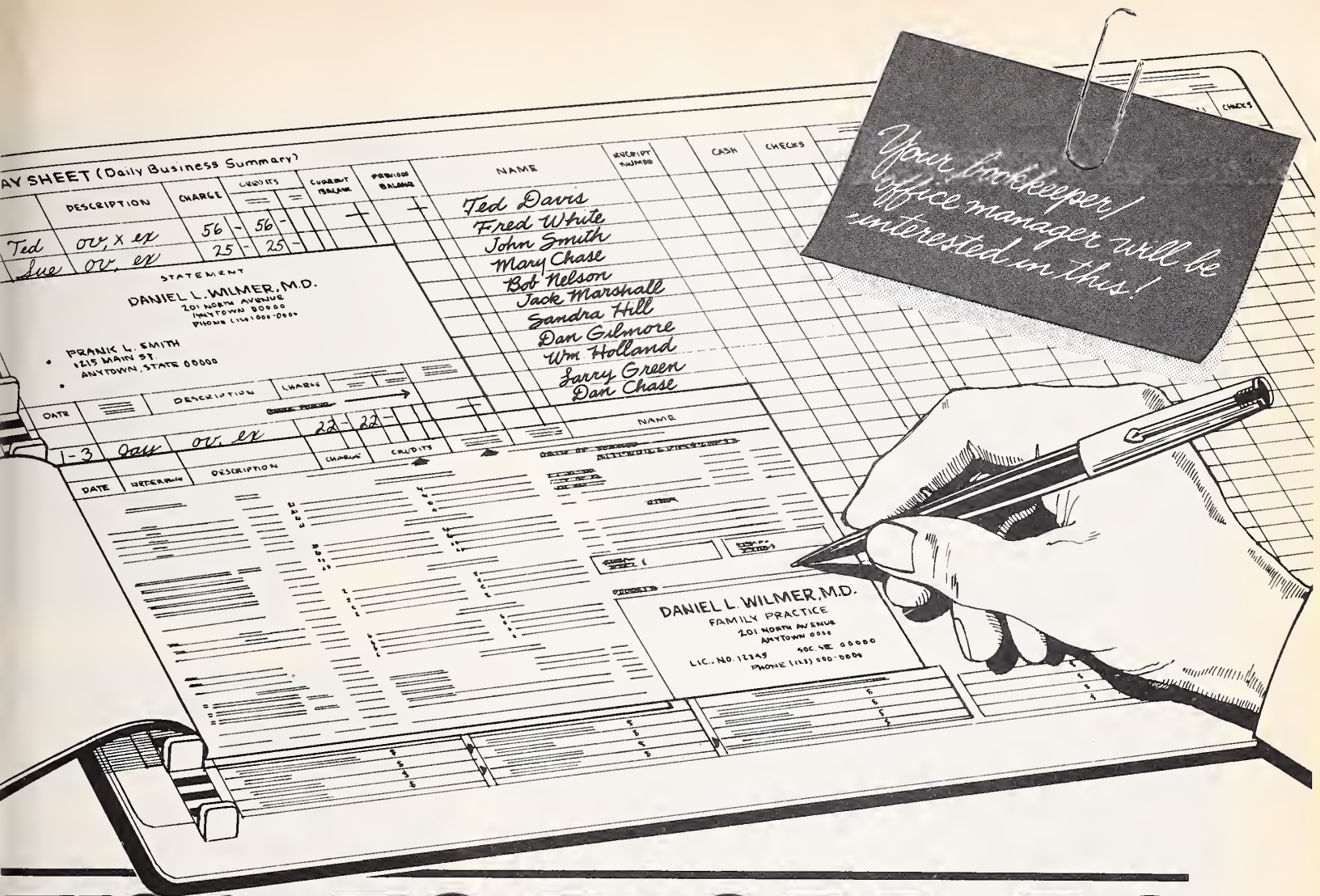
ADMISSION-DAY PROCEDURES — 7 procedures have been placed by the IFMC on an initial list of procedures appropriate for admission-day performance. They are tonsillectomy, adenoidectomy, varicocele repair, hydrocele repair in adults, certain fractures, Keller bunionectomy and biopsy of the cervix with conization (with or without dilatation and curettage). These procedures generally require a one or two-day hospital stay.

FILED WITH HPCI — In July the Iowa Medical Society filed a 5-page letter/report with the Health Policy Corporation of Iowa commenting on progress made in implementing the recommendations of the Governor's Commission on Health Care Costs. The comments were invited by HPCI. The Society covered briefly, but specifically, each of the 13 recommendations in the Governor's report.

IFMC PLANS HMO REVIEW — A review program for HMOs and IPAs is now being devised by the Iowa Foundation for Medical Care. A provision in the Iowa HMO enabling law requires that mechanisms of the HMO type must be reviewed at least annually.

IOWA HOSPITALIZATION DATA — Foundation figures reported at the July IFMC Board meeting show a general drop in days of Iowa inpatient care per 1,000 population. Annualized first-quarter data for 1983 were compared with 1982 figures to produce these findings: Medicare - down 9.6%; Medicaid - down 2.4%; Deere and Company - up 1.9%, and Blue Cross - down 10.5%. These data cover only persons hospitalized in Iowa; readers should be mindful that Deere inpatient use has been low to the point that the increase cited is statistically insignificant.

STATE BOARD OF HEALTH — Lloyd Holm, D.O., Pomeroy, was elected president of the State Board of Health at its July meeting. Dr. Holm succeeds Paul Seebohm, M.D., Iowa City, in this post. A new physician member of the Board is Beverly Robinson, M.D., Des Moines obstetrician/gynecologist.



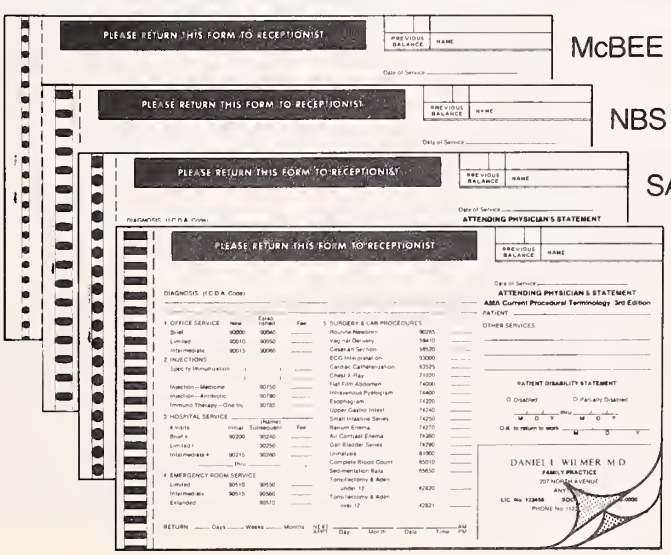
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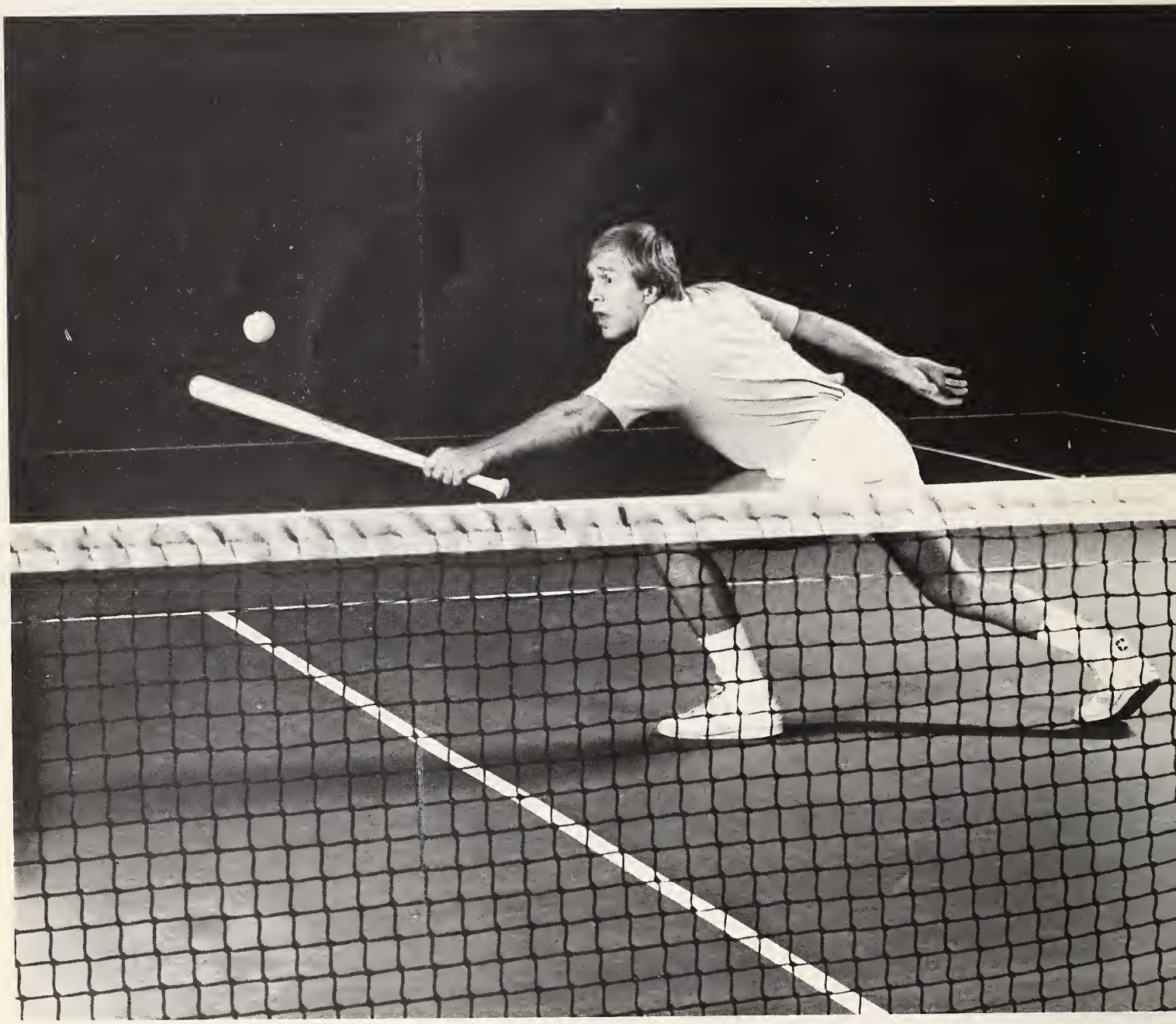


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Iowa Phase — National Breast Cancer Detection Project

DONALD C. YOUNG, M.D.
Des Moines, Iowa

Findings and observations are reported on the Iowa phase of a National Breast Cancer Detection Demonstration Project. Des Moines is one of 27 centers involved in the study. Current breast cancer detection guidelines are provided.

A COUNTRYWIDE Breast Cancer Detection Demonstration Project was co-sponsored and co-funded by the American Cancer Society (ACS) and the National Cancer Institute (NCI). Twenty-seven centers, including one in Des Moines, were selected on the basis of population and geographic factors. It began in 1973 when more than 280,000 asymptomatic women agreed to a series of annual screening examinations using medical history, physical examination, mammography and thermography.

Breast Self Examination (BSE) was also taught at these screenings and the participants were encouraged to perform breast self exam on a monthly basis.

The author is project director and principal investigator of the long-term follow-up of the breast cancer screening participants. He is in the private practice of radiology and nuclear medicine in Des Moines, Iowa.

All project cancers have been categorized into 4 types of lesions: *(1) non-infiltrating; (2) infiltrating less than one centimeter; (3) infiltrating greater than one centimeter,* and *(4) size unspecified.* The first two categories were designated minimal cancers. Figure 1 relates biopsies performed to actual cancers detected through the 5 years of screening examinations. It also identifies those classed as minimal and interval cancers. Cancer detection rates for year one are much higher than years two through five reflecting the *prevalent* cancer rate of year one followed by the *incident* cancer rate during years two through five.

Currently a long term follow up includes

BREAST CANCER DETECTION HIGHLIGHTS

- One woman in 11 will get breast cancer.
- 27% of cancer in women is breast cancer; more than twice the incidence of uterine cancer (13%).
- The leading cause of death in women aged 40-44 is breast cancer.
- Breast cancer kills more women than any other cancer.
- Recently analyzed data from the American Cancer Society/National Cancer Institute Breast Cancer Detection Projects reveal that nearly 90% (88.9) of breast cancer discovered were found by mammography compared to 56% by physical examination.
- Mammography alone accounted for 59% of the non-invasive cancers diagnosed.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF AUGUST 1983

65,000 of the 280,000 women originally screened, (2,134 of the Iowa group). The 4 cohorts are *(1) all diagnosed breast cancers, (2) women diagnosed with benign breast disease, (3) women for whom diagnostic procedures were recommended but not obtained,* and *(4) a sample of women whose annual examinations were normal for five consecutive years.*

Several follow-up objectives are of particular interest and include absolute survival rates in all in-situ or minimally invasive cancers. They also cover subsequent rates of malignancy in women whose biopsies were histologically benign but demonstrated hyperproliferative changes.

GUIDELINES FOR SCREENING

Risk Factors — Some risk factors correlate highly with a subsequent development of breast cancer. For example, the diagnosis of cancer in one breast places the remaining breast at 5 to 7 times increased risk; a family history of breast cancer in a patient's mother places her at 2 to 3 times greater risk and if either a mother or sister had bilateral premenopausal breast cancer the risk is 9-fold.

Risk factors for all women in the general order of their importance are:

(1) Personal history of breast cancer.
(2) Family history of breast cancer particularly premenopausal.
(3) Age over 50.
(4) Nipple discharge particularly bloody.
(5) Unusual lumps or thickening in the breast.
(6) Late menopause.
(7) Multiparity.
(8) First child after the age of 30.
(9) Early onset of menstruation.

Other less important factors include obesity, hypertension, high blood pressure and the history of a prior breast biopsy.

Recent evidence indicates that many of these risk factors are additive.

COMPARISON OF CRUDE CANCER DETECTION RATES, BIOPSY PERFORMANCE RATES, MINIMAL CANCER DETECTION RATES, AND INTERVAL CANCER RATES FOR YEARS ONE TO FIVE.

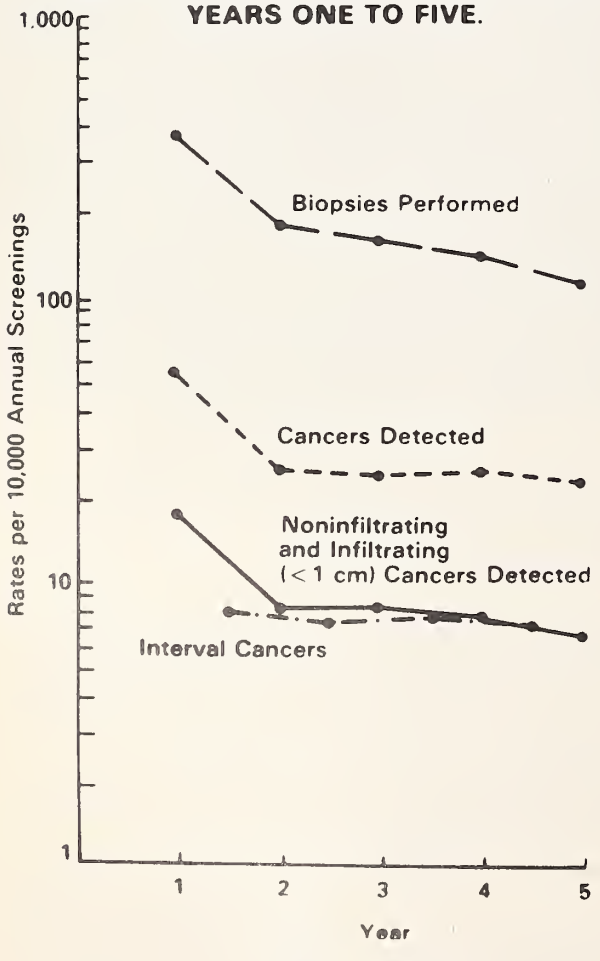


Figure 1

BIOPSIES PERFORMED

Age is an important factor in examining biopsy rates as younger women have a higher incidence of benign breast disease. Older women have an increasingly higher incidence of breast cancer. In the 35 to 39 age group the ratio is 16.4 to 1 falling to 2.7 to 1 in the 70 to 74 age group. In the past most of the benign breast disease in younger women has been characterized as fibrocystic "disease." Many observers are beginning to ask if it is reasonable to define as "disease" any process occurring clinically in 50% and histologically in 90% of women. Certainly, a diagnosis of "normal breast tissue" almost never appears in a surgical pathology report. Once a woman has had a biopsy for benign disease, she is more likely to have a second biopsy and statistically can be shown to develop more breast cancer; a fact probably related to closer surveillance.

DETECTION APPROACHES

At the onset of the program the combined modalities and medical history, physical examination, mammography and thermography were used to screen participants. Mammography alone was responsible for the detection of 41.6% of all project detected cancers and 59% of the non-infiltrating cancers. Since the aver-

age breast cancer must be one centimeter or larger in diameter to be palpable on physical exam, mammography played a lesser role in diagnosing those larger cancers but, nevertheless, was the only modality positive in approximately one-third of the infiltrating cancers greater than one centimeter in diameter diagnosed.

Physical examination and mammography both contributed cases not detected by the other, but the contribution of mammography was substantially greater. Physical examination alone contributed to 8.7% of the total cancers detected.

Of the nearly 4,500 cancers diagnosed in the screening population, approximately one-third were minimal (less than one centimeter in diameter) cancers. More than 80% of all cancers detected showed no evidence of nodal involvement.

TABLE I

AGE-SPECIFIC NONMALIGNANT TO MALIGNANT BIOPSY RATIOS*

Age at Entry	Nonmalignant to Malignant Biopsy Ratio
35-39	16.4
40-44	9.5
45-49	6.5
50-54	5.2
55-59	3.8
60-64	3.4
65-69	3.2
70-74	2.7
Total	5.4

*Includes biopsies performed for which a surgical recommendation was made at an annual or early recall screening, and those performed when a woman saw a surgeon prior to a scheduled early recall screening to follow up an abnormal modality finding.

CURRENT DETECTION TECHNIQUES

Physical examination and mammography are clearly complementary procedures and the end results are materially improved when the two diagnostic procedures are combined. There continues to be progressive and substantial improvement in the quality and diagnostic accuracy of mammography with some modalities now providing high resolution images at little or no radiation risk. Current technology is available to produce an ideal image at a dose of 35 to 40 millirads per exposure. These examinations when interpreted by an experienced mammographer can routinely identify breast cancers as small as 2 to 3 millimeters in diameter, providing significant lead time in early diagnosis. In addition, the telltale calcifications typical of 20% of all early breast cancers are often identified on mammography alone when physical examination is normal.

Ultrasound evaluation of a breast mass is a supplementary technique, the value of which is currently confined to separating cystic from solid lesions. Ultrasound does not usually detect calcifications characteristic of many early breast cancers.

Thermography should not be used alone as a screening tool. As a supplementary technique it may function as a risk indicator and does provide some prognostic information in a patient with a known carcinoma.

Diaphanography involves transillumination of the breast by a very intense but relatively cool light source. The technique attempts to discriminate benign from malignant abnormalities by differential absorption of near infrared light. To date, no published clinical study has shown the ability of transillumination of the breast to detect preclinical cancer that had not been discovered by either physical examination or mammography.

All detection techniques should be performed and interpreted by experienced, well trained individuals using modern, carefully monitored equipment and correlated with findings present on physical examination. When physical examination reveals findings sufficient to consider biopsy it *should* be performed even in the presence of a mammogram described as normal; however, even then mammography usually offers additional information on the nature of the abnormality on physical exam as well as the status of the opposite breast.

CONCLUSIONS & RECOMMENDATIONS

The following or similar guidelines have been developed by the American Cancer Society, American Academy of Family Physicians,

(Please turn to page 310)

American College of Obstetrics and Gynecology and American College of Radiology:

- *Women 20 years of age or older should perform breast self examination every month.*
- *Women 20 to 40 should have a physical examination of the breast every 3 years; women over 40 should have a physical examination of the breast every year.*
- *Women between the ages of 35 to 40 should have a baseline mammogram; if a family history of breast cancer exists, the date of that baseline mammogram should be advanced 10 years.*
- *Women under 50 should consult their personal physicians about the need for subsequent examinations.*
- *Annual mammography and physical examination are recommended for all women over age 50.*

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QUESTIONS/ANSWERS

(Continued from page 303)

How will the middle income and elderly fare?

I believe they are at the greatest risk of having a significant decline in quality care.

Is the obvious goal of making health care more affordable going to achieve any significant realization?

There are already success stories across the nation. However, for every successful plan, how many quietly failed, leaving behind sizable debts? What of those people who are abandoned in health care by the demise of still another plan, perhaps being left uninsurable? The price for "affordable" medicine may be quite high for central Iowans — and for the nation.

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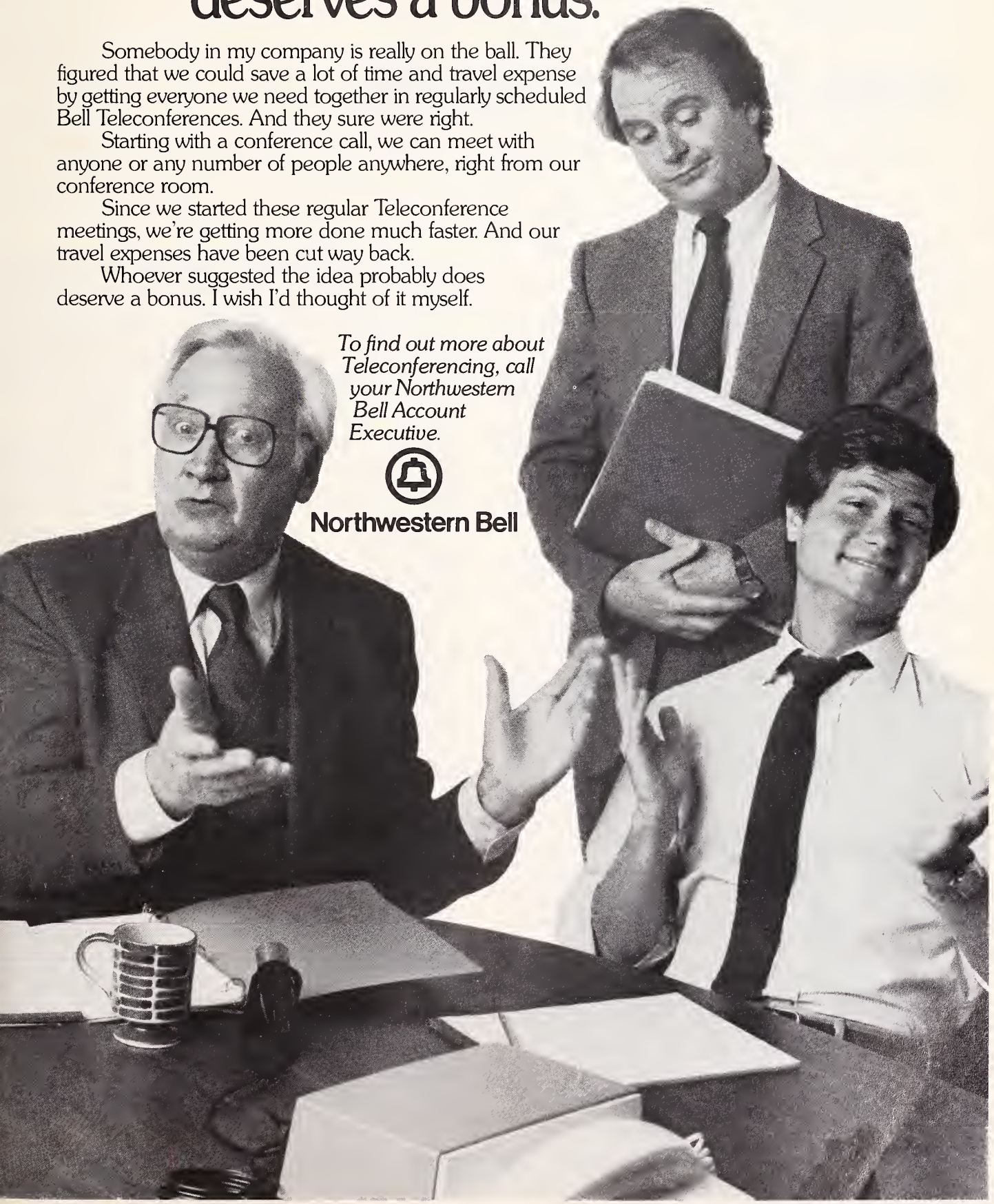
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Knee Meniscal Repair

PETER D. WIRTZ, M.D.
Des Moines, Iowa

A favorable report is furnished on a limited series of meniscal repairs among Iowans sustaining athletic injuries. Note is made of the increasing use of this approach in dealing with meniscal tears.

THE BIOMECHANICAL FUNCTIONS of a meniscus often suggest that repair of a tear is in order. Until as recently as 1975, the literature carried few articles on meniscal function, so the general attitude toward meniscal tears seemed to favor simple excision. This is a short discussion of meniscal function, with a description of the operative technique and a review of a small series of repairs.

The main functions of knee menisci are to provide stability and load bearing capacity. The medial meniscus has been regarded as a stabilizer because its absence produces more instability than when a lateral meniscus is removed. This finding correlates with clinical studies of sports activities where cutting maneuvers have been evaluated[1] and in knees that have developed ligament instability. Load bearing is a function of both menisci.[2, 3, 4] The lateral meniscus carries most of the load in its compartment. Removal reduces the load bearing area by one-half to one-third so as to increase the stress in the area of bony contact.[3] The medial compartment load bearing is approximately one-half through the meniscus with the rest on the exposed articular cartilage.[2] The retention of the menisci for load bearing will minimize joint degeneration.

The earliest meniscal repairs were associated with ligament ruptures. The first reports on ligament repairs recommended meniscal excision. However, the more recent articles dwell on repair of an acute meniscal peripheral tear and indicate success so long as the ligament repair stabilizes the knee. Repairs are successful in the meniscal area of blood supply which is in the outer one-half of the meniscus, whereas the flap tear that begins in the periphery and extends to the inner most rim is not repairable. Old peripheral tears require soft tissue debridement in the defect before suturing. Also, knee ligament stability is a necessity for long term success.

ARTHROSCOPIC TECHNIQUE

Arthroscopic technique for meniscal repair utilizes debridement of the tear with a punch biopsy instrument, a curette, or a power meniscatome to freshen the tissues to be approximated. Absorbable sutures are passed into the joint through an irrigation tube, and then through the meniscus in a vertical direction that makes the sutures cross perpendicular to the circular meniscal fibers. The suturing draws the meniscus into apposition at the debrided peripheral area and these sutures are tied over the capsular structures in the sub-

The author is in the private practice of orthopedic surgery in Des Moines, Iowa.

TABLE 1
MENISCAL REPAIR SERIES

Patient	Age	Knee	Sex	Sport	Injury	Physical	Repair	Follow-up
1. EF	15	L	Male	Wrestling	12/12/81	Tender medially	2/12/82 Arthroscopic medial repair	4/19/82, no symptoms full range of motion
2. TR	16	L	Male	Wrestling	1/29/82	40 to 90 degrees	3/16/82 Arthroscopic medial repair	5/26/82, no symptoms full range of motion
3. GW	18	R	Male	Football	Fall of '81	Tender medially	2/19/82 Arthroscopic medial repair	5/25/82, Arthroscopic suture removed, showed healed meniscus
4. LH	39	L	Male	Basketball	2/21/82	30 to 90 degrees	3/19/82 Arthrotomy medial repair	5/13/82, no symptoms full range of motion
5. KT	14	R	Female	Basketball	2/11/82	10 to 140 degrees, tender medially	4/12/82 Arthrotomy medial repair	8/9/82, tender medially with strenuous activity full range of motion
6. GW	19	L	Male	Wrestling	3/15/82	10 to 150 degrees, tender medially	5/3/82 Arthroscopic medial repair	11/3/82, no symptoms full range of motion
7. LP	41	R	Male	Basketball	Multiple	Tender medially	8/10/82 Arthroscopic medial repair	10/8/82, hyperflexed and the displaced meniscus required arthroscopic removal, 10/22/82
8. DS	18	L	Male	Basketball	1979	Tender medially	10/26/82 Arthroscopic medial repair	2/23/83, no symptoms 3/1/83, hyperflexed and the displaced meniscus was arthroscopically removed, 3/7/83

cutaneous tissue. Long Keith needles facilitate this suture passage. Arthrotomy technique for repair is possible for medial and lateral repair, but has its associated increase in postoperative morbidity. Postoperatively, the knee is immobilized for 4 weeks with a gradual return of motion.

This series of 8 cases has had a follow-up of 4-12 months. Two arthrotomy techniques and 6 arthroscopic techniques were used. It is noted that these are all medial meniscus repairs in knees that have ligament stability. One case required an arthroscopic removal of a non-absorbable suture and this showed that the meniscal area had healed across the superior and inferior surfaces at the meniscosynovial border. Two cases postoperatively squatted deeply and displaced the repaired medial menisci into their intracondylar notches. Arthroscopic evaluation of these displaced menisci revealed new vertical split tears in their mid-portion which required partial meniscectomy. These excisions, as well as the successful repairs, have resulted in a return to usual preoperative activity levels without problems. The patient rehabilitation usually lasts 2-3 months.

The most recent studies on meniscal physiology indicate a need for meniscal repair. These successful, short term findings are gratifying as a conservative approach to meniscal tears.

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Primary Fibromyalgia: A Review and Update

MARK C. MENADUE, D.O., and
MAYANK K. KOTHARI, M.D.
Des Moines, Iowa

Treatment of primary fibromyalgia is within the realm of all primary care physicians. Its management has controversial aspects. The authors submit their thoughts on the subject.

First recorded in 1904 by Gower to describe a vague pain pattern associated with the "inflammation of fibrous tissue," fibrositis has proven to be a misnomer. The absence of any signs of inflammation or other histopathology is well documented in subsequent clinical experience. Actually, fibrositis is a form of the rheumatism that is secondary to various rheumatic and non-rheumatic conditions (e.g., osteoarthritis, rheumatoid arthritis, systemic lupus erythematosus and other connective tissue diseases, trauma, hypothyroidism and other endocrine diseases, viral and other infections and malignancies). All of these etiologies are discernible by the appropriate lab findings. When no cause or contributory factors are ellucidated, the term primary fibromyalgia is preferred.

Dr. Kothari is in the private practice of internal medicine in Des Moines. Dr. Menadue is a recent graduate of the University of Osteopathic Medicine and Health Sciences.

While secondary fibrositis can be easily ruled out with normal laboratory findings, overt hypothyroidism can be frequently overlooked if an elevated index of suspicion is not maintained. It is most prudent to keep this in mind with older patients who present with the other signs of classic hypothyroidism (e.g., weight gain, constipation, hoarseness, cold intolerance, fatigue, etc.) as documented in the studies of Wilke, *et al.*[1]

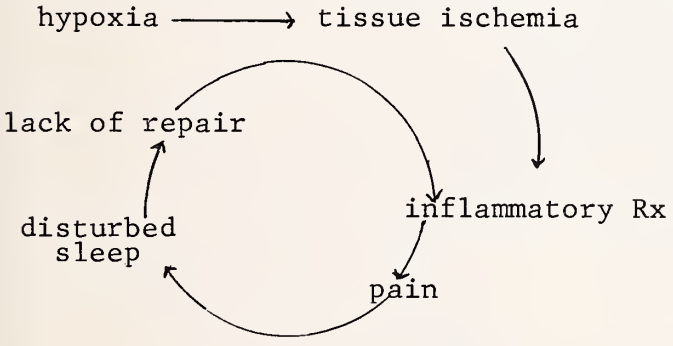
Obviously, these secondary forms are amenable via treatment of the underlying cause. However, the primary form of the disease is the most taxing to both the patient and the clinician. Probably all practicing doctors, and certainly all general practitioners will have seen and been frustrated by the patient who returns to the office repeatedly complaining of recurrent, intense musculoskeletal pain, particularly of the shoulders and neck. On exam very few, if any, signs are delineated, but the subject is miserable, often suffering from sleep disturbances and mild depression. These patients are notorious for their poor response to analgesic anti-inflammatory agents and physical therapy. For the non-astute observer the patient is often quickly apparent as a psychogenic individual.

With the increased awareness of primary fibromyalgia, still predominantly in the realm of the rheumatologist, the incidence is striking. In a recent review of cases at the Peoria School of Medicine, Muhammad Yunus, M.D.,[2] discovered that primary fibromyalgia was the second most frequent diagnosis (20%), exceeded only by osteoarthritis (29%). In patients

under 50, it was the most common (33%). The incidence is obviously expected to rise sharply as awareness of the condition becomes better known by more practitioners in various disciplines.

ELUSIVE ETIOLOGY

As mentioned, the etiology remains elusive. However, a number of hypotheses have been proposed. Some have fallen by the wayside, such as poor posture, psychologic disturbance (which seems to contribute in very recent studies), and neural disturbances. The current theory revolves around deprivation of slow-wave stage 4 (non-REM) sleep. This type of sleep serves in the function of growth and repair of body tissues. Obviously an acceptable probability, but it remains to be seen what occurs first, the altered sleep pattern or tissue alteration.



Symptoms of primary fibromyalgia are most frequently found in women in their 20's and 30's (only 15% males) and include generalized aches and pains, fatigue, stiffness, anxiety and/or depression, disturbed sleep, headache, irritable bowel syndrome, subjective joint swelling and numbness. Perhaps even more important than the symptoms, and paucity of signs, are the modulating factors seen in Table I.

The diagnosis is relatively easy to make with the presence of these modulators, which are of prime importance in view of the few other positive findings. Keep in mind the normal CBC, ESR, muscle enzymes, negative RA factor, ANA and x-rays. Hence, the modulators and physical findings of normal joints and muscle strength, multiple tender points, muscle spasm, tender "fibrocystic nodules," erythema over palpated tender points, and signs of anxiety or apprehension, are virtually pathognomonic for primary fibromyalgia.

TABLE I

Aggravating Factor	*Alleviating Factor*
Cald ar humid weather	Warm, dry weather
Fatigue (physical ar mental)	Hat shawer, lacal heat, massage
Sedentary state	Madest physical activity
Overactivity	General relaxatian
Anxiety	Vacation
Poar sleep	Nap and restful sleep

Obviously, exclusion of secondary causes is required for the definitive diagnosis.

MANAGEMENT

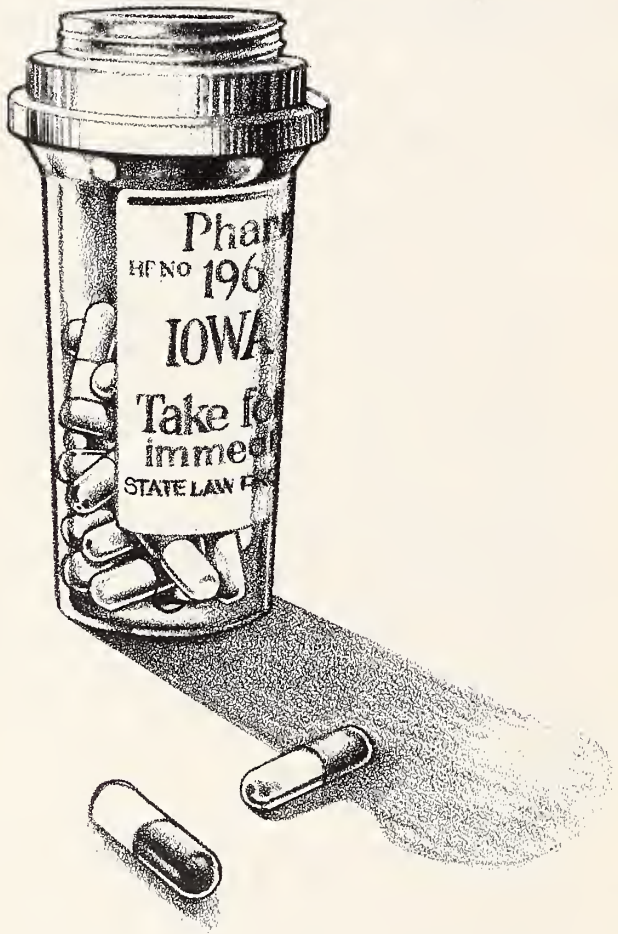
Management of fibromyalgia remains controversial at least. Beyond firm diagnosis and reassurance, the experts begin to vary in their approach. Conservative care is recommended via patient education, general relaxation techniques, restful sleep, moderation of activities, physical therapy and weight reduction in the obese. Failing these measures, nonaddictive analgesics, non-steroidal anti-inflammatory agents, lidocaine injection of tender points, TENS, psychotherapy are indicated; most promising are the antidepressants and tranquilizers. Restoration of normal sleep appears to be the ultimate goal, and is best achieved with the tricyclic antidepressant amitriptyline, 25-50 mg at HS. Combination with a perphenazine (Triavil) is most efficacious in the very tense. The approach to care must be individualized as no strict regimen is universally successful.

While the disease has been the subject of increased interest recently, its diagnosis is often one of exclusion, which it need not be. The spectrum of its manifestations and treatment is within the realm of all primary care physicians. One's index of suspicion must constantly be elevated in order not to overlook a potentially treatable malady.

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House File 196: A cure-all for Iowa's ailing health care system?



Blue Cross and Blue Shield of Iowa have long been at the forefront in solving Iowa's health care system dilemma.

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Many people do believe Iowa's health care system has been ill. It *is* true that utilization has outstripped national averages and costs have soared. As a result, Iowa's legislators have now become involved by writing a "prescription" to help effect a cure — the omnibus health care bill, House File 196.

Part of this new act calls for a change in the make-up of the Boards of Directors of Blue Cross and Blue Shield of Iowa. An interim legislative committee recommended a simple majority of subscribers. The general assembly, however, mandated a two-thirds subscriber majority, plus some very specific nominating provisos.

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House File 196 is strong medicine. And although we believe portions of the law can help effect a cure in Iowa, it is not a cure-all.

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We shall also strive to maintain our positive and progressive relationships with Iowa's physicians, and to achieve our common goal — that of providing quality health care at affordable cost for all Iowans.

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A 1983 STATEMENT OF PRINCIPLES FROM IOWA MEDICINE

FOREWORD

This 1983 Credo of Principle and Philosophy is a statement prepared by the Iowa Medical Society Board of Trustees and approved by the policy-making Iowa Medical Society House of Delegates.

The IMS House of Delegates is made up of 238 Iowa physicians who represent their county medical societies. It meets usually once a year to set the broad policy under which the medical profession in Iowa will operate.

The 1983 House of Delegates requested that this document be distributed as a "dynamic statement for our times." The Credo is being circulated to individual physicians and county medical societies. It is recommended for discussion with the thought that suggestions for change be submitted for consideration by the 1984 House of Delegates. It is being provided additionally to other parties interested in Iowa health care delivery to indicate the basic beliefs of the medical profession.

The Iowa Medical Society has a membership of 3,146 physicians. It was founded in 1850. Its purposes are to promote the science and art of medicine and the betterment of public health; to bring together and organize the medical profession of the State of Iowa, and to unite with similar associations in other states to form the American Medical Association.

A 1983 STATEMENT OF PRINCIPLES

ASSURANCE OF QUALITY • ECONOMIC CONCERN

OPENNESS TO INNOVATION IN HEALTH CARE DELIVERY

A COMPETITIVE MARKETPLACE • PROFESSIONAL

RESPONSIBILITY • PROMOTION OF GOOD HEALTH

COOPERATIVE LEADERSHIP

INTRODUCTION

The delivery of health care in Iowa and in the nation is experiencing unprecedented ferment. This is well known to those individuals who are evaluating the health care system. Much of this interest is precipitated by the fact that health care costs are now absorbing up to and in excess of 10 percent of the gross national product.

Whether the fermentation in health care delivery today will produce an irreparable disruption of the crucial elements, or an even and positive blend of existing and new concepts into a more effective and efficient humanity-serving form, only time and the adeptness of humankind will tell.

Positive participation by the Iowa medical profession in this ongoing fermentation process is essential. This involvement must begin thoughtfully and willingly within the head and heart of each practicing Iowa physician. The progression must move next into the ranks of organized medicine where, after careful deliberation, a mix of the traditional and the contemporary can be pursued in the interest of the patient and the profession.

The Iowa health care landscape is dotted by many societal entities which have an intense and rightful interest in that which is to evolve. The times are such that each element of participation must be open to hearing the views of the others to the end that good will result from the effort.

The statements which follow are submitted by the Iowa medical profession as a comment on where its physician members stand today on the topics which appear to medicine to be most dominant and most important.

ASSURANCE OF QUALITY

Is there anything more important in the human value system than trust — a total belief in the words and actions of another person?

Most will agree that very little, if anything, is of greater consequence.

Trust is a particularly sacred proposition when it comes to enlisting the aid of others in attending to a health concern, especially if that concern is of a life-threatening dimension. When such a condition befalls an individual or family, there needs to be given the full assurance that a maximum effort will be made to correct or improve the situation.

As an individual, the Iowa physician must in every way possible seek to earn the trust of the patient (and family) being served. He/she must be conscientious and diligent in diagnosing and treating the described health problem.

As a body, the medical profession must similarly exert full energy to assure a community-wide level of high quality care. There are various and ever-changing mechanisms directed and operated by the medical profession which seek to assure the delivery of quality care by those within its ranks. Certain procedures and vehicles have been used through the years by medical staffs and other physician organizations in pursuit of the highest level of quality.

Newer peer evaluation programs have emerged in the past decade or so. These have been inspired by the profession itself. They have been mandated by government as well. And they have received support and stimulation from numerous private entities that acknowledge quality as fundamental, but place heavy additional emphasis on affordability in the total equation.

So, the individual Iowa physician — in his or her examination room, in the surgical suite, in the laboratory, in the nursing home, wherever medical service is provided, is ethically obligated to provide medical care of the highest quality within his/her capacity.

And, likewise, the medical profession, as a body, affirming again an ethical standard, must be vigilant and active in the ongoing pursuit of a system which helps its members to be sharp of skill, contemporary in knowledge and continuously mindful of patient needs.

PRINCIPLE — ASSURANCE OF QUALITY

As Iowa physicians, practicing at this time in history, we believe quality is our bedrock. We believe it to be central in all we do. We believe it should be our daily commitment to assure patients high quality medical care. We believe, as Iowa physicians — within our medical staffs, our county medical societies, our medical specialty organizations, and within other organizations specially formed to measure and assure quality care — that we must furnish direction and leadership, whenever and wherever possible, to foster quality care across the Iowa medical spectrum. We believe this quality care can be assured for Iowa only when the profession itself and those others associated with it recognize that medicine must be entrusted with the principal directional role. We believe, fully and finally, the Iowa medical profession must accept the responsibility to furnish leadership in assuring the quality of care our patients deserve.

ECONOMIC CONCERN

In 1982, nine of 10 Iowans said physicians are genuinely dedicated to helping people. Eight of 10 Iowans said that physicians are accessible when needed. And nearly eight of 10 Iowans said physicians usually are up-to-date on medical advances.

These are heartening public reactions to the important factors of quality and accessibility. They are findings from an independent, scientific poll sponsored by the Iowa Medical Society.

But this same survey disclosed, not surprisingly, that almost seven of 10 Iowans believe cost is the main problem facing health care and medicine in the United States today. The concern over cost was greater among Iowans than it was among a corresponding national sample.

As Iowa physicians, we know and we appreciate the intense public interest in health care costs. We know, too, that this interest is receiving priority attention from leaders of business, industry, labor, other health provider groups, as well as government officials.

The complex matter of health care costs is an obvious principal concern of the Iowa medical profession. The economic escalation is producing honest consternation. On the one hand, society wants costs moderated; yet, on

the other, individuals, rightfully, desire the most technologically-advanced care for their family members. The goal must be a balance between the outlay of skill and service and the resulting expense, with quality not allowed to diminish.

As Iowa physicians, we must keep ourselves informed about medical economics. For example, we need to know, in 1981, the latest year for which definitive national statistics are available, (1) the total health expenditure grew at a rate of 15.1%, slightly below the 15.8% rate in 1980; (2) hospital expenditures increased by 17.5%, higher than the 1980 rate of 16.2%; (3) hospital expenditures accounted for 41.2% of total health expenditures, an increase over the 1980 rate of 40.3%; and (4) expenditures for physicians' services increased 16.9%, a rate higher than the 1980 increase of 14.5%. We acknowledge the perplexity of these figures in an economy where an abatement in the rate of general inflation is being seen. We are pleased that the average cost of a hospital day in Iowa is less than the national average, but we are cognizant, too, of reports indicating the Iowa rate is moving upward more rapidly than the national rate.

PRINCIPLE — ECONOMIC CONCERN

As Iowa physicians, we believe public concern over health care costs deserves our full acknowledgment. We believe the cost issue must continue as a high priority item on the agenda of the medical profession. We believe the factor of quality must take precedence in a physician's treatment considerations, but we believe, as well, that such can occur with the economic perspective in mind. Stated simply, we believe all possible needs to be done by Iowa physicians in the interest of cost effectiveness. Moreover, we believe Iowans generally should be helped to understand and accept certain well-conceived cost-effectiveness measures, e.g., outpatient care; co-payments and/or deductibles, healthy living, etc. We believe the voluntary approach to containing health care costs is vastly superior to one based on mandatory government controls. We believe that Iowa physicians, individually and organizationally, through the Iowa Medical Society, are responsible to provide key leadership, with other interested parties, to address this important and complex issue. Finally, we believe Iowa physicians are responsible, ethically, to deliver quality service to their patients in an appropriate amount at a fair cost.

In words and actions Iowa medicine is responding to the economic concerns. This response is taking various directions, e.g., participation in the Governor's Commission on Health Care Costs; involvement in founding and activating the Iowa Voluntary Cost Containment Committee. More recently, the medical leadership has promoted cost containment through the **'82/'83 Iowa Physician Concern Program.** Here the Iowa Medical Society is encouraging member physicians to maintain and even reduce fees in 1983 — and it is urging local effort by the profession to assure the availability of medical care for persons hardest hit by the depressed economic conditions.

OPENNESS TO INNOVATION IN HEALTH CARE DELIVERY

For many years the Iowa Medical Society has endorsed a pluralistic philosophy in the consideration of health care delivery systems. The merit of experimentation with various approaches has been recognized and accepted.

Just as research and experimentation have produced extraordinary scientific and technologic progress in medicine, so, too, it is likely that new delivery mechanisms, when subjected to trial, evaluation and refinement, may compare favorably in quality, efficiency and cost-effectiveness with more traditional fee-for-service medical care which has existed for much of history.

It continues to be a basic tenet of the medical profession that no single pattern of health care delivery is necessarily suited to all patients or to all physicians. Consequently, the presence of multiple alternate delivery systems will enable both Iowa patients and Iowa physicians to exercise a true choice. Repetitious as the refrain may have become in our era of emerging delivery concepts, Iowa medicine continues to underscore its interest in assuring high standards of quality and in advocating a high level of continuity in the provision of personal care.

As observed, Iowa is witnessing greater levels of interest and activity in health care delivery than

at any previous time. The impetus for innovation is coming from various interested and involved quarters. Collaboration between the medical profession and business interests has inspired new delivery options in several Iowa communities, e.g., Davenport, Waterloo and Dubuque. While each of these programs has existed for a different interval, all of them report acceptable progress. Facts and figures on each program have been shared willingly as a way of enabling the Iowa Medical Society to become in some measure a central repository of information to furnish others who may be interested.

Further innovation is occurring steadily about Iowa. Stimulus for this is coming from segments of the medical profession, with additional involvement by others in some cases. A notable increase in the performance of outpatient or same-day surgery is occurring in Iowa. One freestanding surgical center is located in Des Moines. In addition to the health maintenance organizations and independent practice associations alluded to previously, there has been public announcement of the first Iowa preferred provider organization to be located in Des Moines; other proposals that may emanate from physicians, hospitals, business or other private and corporate interests are known to be under active development.

It is obvious there is a redesign coming over the Iowa health care landscape. It is going forward, hopefully, in a spirit of positive competition and with cost containment as a fundamental objective. We trust the end result will retain the desired level of quality.

Only time will answer this.

PRINCIPLE — OPENNESS TO INNOVATION IN HEALTH CARE DELIVERY

As Iowa physicians, we believe innovation has a distinct place in the contemporary evolution of health care delivery. We believe in a basic philosophy of neutral public policy and fair market competition among all systems of health care delivery. We believe it important and worthwhile for all Iowa physicians to become well-informed about the various mechanisms for delivery of medical care which are emerging across the country. We believe that growth of any particular alternative system in Iowa should derive from citizen preference and not from any preferential governmental action. We acknowledge the stake other segments of the economy have in the provision of health care services for Iowans; in making this acknowledgment, we believe Iowa physicians have a responsibility to provide essential medical leadership in the further consideration of changes in Iowa health care delivery. We believe Iowa physicians can and will discharge this responsibility.

A COMPETITIVE MARKETPLACE

Much interest is now centered on the medical marketplace and the presence of greater numbers of physicians. The impact of this in Iowa and nationally is being contemplated by various observers.

The training of medical students has been addressed sensibly in Iowa over the past decade. This sentiment is borne out in recent comments of John W. Eckstein, M.D., Dean, College of Medicine, University of Iowa, as published in the April 1983 issue of the JOURNAL OF THE IOWA MEDICAL SOCIETY: "In the first place, the University was restrained in its response to the shortage, limiting its enrollment increase to 40% — enough to match the attrition rate of Iowa physicians. Second, facilities were expanded cautiously to accommodate the increased number of students, and only modest involvement of the community was needed to provide balanced clinical experience. Third, the College concentrated on the problems of correcting maldistribution, which in Iowa greatly overshadowed the shortage of physicians."

As Iowa physicians, we need to become informed ourselves and subsequently help the public to become informed about the inventory of medical manpower. For instance, recent data issued by the American Medical Association indicates there are 205 physicians per 100,000 population nationally; this constitutes 1 physician for every 487 persons.

In New York and Massachusetts, in 1980, there were as many as 280 physicians per 100,000 population (1/357). In South Dakota and Mississippi there were only about 117 physicians per 100,000 persons (1/855). By contrast, Iowa is reported to have a ratio of 132 per 100,000 population (1/758).

From these findings it is safe to

conclude that Iowa is not experiencing a medical manpower surplus. However, it is interesting to note, with the recent emphasis on medical education, the greatest number of Iowa physicians is now in the 30-39 age classification.

The Statewide Family Practice Training Program has celebrated 10 years of performance. It is contributing significantly to the corps of primary care physicians. The nine community-based residency programs within the network now enroll 171 family physicians in-training. Approximately 60% of the FP residency graduates have chosen Iowa practice sites, half have selected communities with populations under 10,000.

One needs to be mindful, upon hearing comments about a surplus of physicians, that the number of family physicians entering practice in Iowa barely exceeds the number dying, retiring or relocating each year. It is noteworthy, too, that 180 Iowa communities are trying to attract one or more family doctors to their locality.

The medical profession has declared it believes the numbers of physicians should, insofar as possible, be determined by processes of the marketplace. It has said the profession should provide information to help physicians identify practice sites where their skills will be well used.

In addition to an increased number of physicians the number of allied health manpower and limited licensed practitioners continues to grow. Many groups are seeking licensure for the first time or expansion of practice rights through legislative action.

PRINCIPLE — A COMPETITIVE MARKETPLACE

As Iowa physicians, we believe competition is healthy. We believe such competition should be practiced in an honest and open manner. We believe competition between and among physicians and other health care practitioners should encompass quality of services, skill, experience, convenience and attention to patients, fee structure, etc. We believe ethical medical practice thrives best under free market conditions when prospective patients have adequate information and opportunity to choose freely between and among competing physicians and alternate systems of medical care.

PROFESSIONAL RESPONSIBILITY

Those physicians who practice medicine in Iowa subscribe to a body of ethical statements developed primarily for the benefit of the patient. In this context, the Iowa physician recognizes and accepts responsibility not only to his/her patients, but also to society, to other health professionals, and to self.

The ethical statements referred to above are several in number. Two are particularly applicable here:

- *A physician shall deal honestly with patients and colleagues, and strive to expose those physicians deficient in character or competence, or who engage in fraud or deception.*
- *A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interest of the patient.*

The Iowa physician functions daily against this backdrop, not only in serving his/her patients, but in the expanded performance of peer review, utilization review, etc. This service is often complex, time-consuning and frustrating.

The peer review duties undertaken by Iowa physicians are often devised by the local hospital medical staff. The peer review task is one of assessing the quality and necessity of the medical services furnished by the physician members of the particular staff. To support this pursuit of local peer review, the medical profession created the Iowa Foundation for Medical Care (IFMC) 12 years ago.

The IFMC was, initially, and remains today, a physician-directed entity intended to assist and facilitate peer review functions performed at the community level. In addition, however, the Foundation has seen its role expanded to include additional assignments including service as the Professional Standards Review Organization (PSRO) in Iowa. Now this federal program is nearing a point of apparent termination to, perhaps, be replaced by a new program of utilization and quality control called Peer Review Organization.

The concept of medical peer review remains generally accepted by most Iowa physicians. Still there are concerns. There are changing and unresolved legal and regulatory requirements for federal quality assurance and utilization review. There is increased pressure to place cost implications ahead of quality factors. There is concern that certain

patient needs as determined by the attending physician cannot be provided for because of rigid rules. Too, there are various new entities emerging to address utilization and economic issues in the name of cost-effectiveness. The whole environment is volatile and one in which the profession rightfully must constantly reassess its role. Nonetheless, the medical profession, at its various levels, is continuing to accept and honor its leadership role in peer review.

PRINCIPLE — PROFESSIONAL RESPONSIBILITY

As Iowa physicians, we believe medicine has a professional responsibility to assure the quality and appropriateness of the medical care provided to our citizens. We believe peer review should exist to maintain and improve the quality of medical care and provide for more efficient delivery of medical services. We believe medical peer review is basically a local process with appropriate added levels of support and guidance. We believe medical peer review is a function of the physician and matters concerning the quality or utilization of medical services that require medical judgment cannot be delegated to others. We believe peer review is an ongoing process requiring the careful study of medical practice patterns with subsequent educational opportunites provided to present findings and suggestions for the maintenance and improvement in quality and efficiency.

PROMOTION OF GOOD HEALTH

An Iowa Medical Society health education folder entitled, "What's Your State of Well-Being?" has this opening comment:

"What's most important in your life? Your family? Your friends? Your work? If you ask 10 people this question, you'll probably find that many will say their health. And, yet, if you ask those same people what they're doing to maintain their health, several are likely to admit they're not doing much."

The truth of this comment can be substantiated by the findings of an independent survey of Iowans sponsored by the Iowa Medical Society in 1982. When asked whether it was a healthy thing to do, a high percentage of these Iowans acknowledged the value of (1) reducing the amount of salt consumed; (2) exercising vigorously at least two or three times a week; (3) refraining from smoking cigarettes; (4) maintaining a proper body weight; (5) cutting down on the amount of fat, red meat and dairy products eaten, and (6) consuming alcohol only in moderation. Interestingly, however, while the benefit of these practices was recognized, in almost each instance fewer of the respondents said they actually paid personal attention to them.

The effort among Iowans to pursue a healthier lifestyle does appear to have increased in recent years. Impetus for this is coming from various quarters. More Iowans are exercising regularly, eating sensibly and engaging generally in practices to improve their quality of life and extend its duration.

Iowa physicians have a responsibility (a) to assist patients, individually, in understanding how to take care of themselves, and (b) to act as a community resource in the promotion of good health.

Excellent opportunities are available to promote healthy living. For example, the Iowa Medical Society and the Iowa Medical Society Auxiliary are providing creative leadership in health education.

Helping persons understand what they need to know about health and medical care is a formidable exercise in our increasingly scientific and technologic times. Because of this, Iowa physicians need to recognize the importance of devoting proper time to explaining to patients the nature of their problems and the best ways to deal with them.

To do less than this the Iowa physician is overlooking the first of the principles of medical ethics, namely, that a physician shall be dedicated to providing competent medical service with compassion and respect for human dignity.

PRINCIPLE — PROMOTION OF GOOD HEALTH

As Iowa physicians, we believe the medical profession must be the role model for healthy living. We believe physicians should allocate adequate time to helping individual patients understand what practices will aid them in achieving optimal well-being. We believe physicians must reserve reasonable time to act within the community as resources to promote good health. We believe the cost of health care can achieve a more acceptable level if Iowans are persuaded (1) to adopt healthier lifestyles, (2) to give full attention to everyday safety precautions, and (3) to observe preventive medical practices.

COOPERATIVE LEADERSHIP

Iowa is witnessing a level of interest in the delivery of health care unparalled by any previous period in history. This interest has emerged for various worthy reasons, but at the core of our consideration are economic manifestations.

Of central concern to Iowa medicine has been and is the preservation and enhancement of quality in the delivery of health care. Leaders from various sectors of the Iowa economy generally acknowledge the quality of care furnished to our citizens.

The interrelated issues receiving critical attention in Iowa today are (1) the over or under availability of health care facilities, and (2) the appropriate utilization of health care services. These topics are certain to receive significant deliberation in the months and years ahead. There are local, regional and statewide factors that have unique application as discussion goes forward on hospital beds, greater use of outpatient services, implementation of alternate delivery concepts, etc.

For a number of years some form of health planning has occurred in Iowa. This included effort by the medical profession to help organize what is believed to have been the first state level organization to address this topic. This was a private and voluntary organization called the Health Planning Council of Iowa.

What might be regarded as the modern era of health planning began in 1974 with enactment of Public Law 93-641. This federal law brought with it edicts pertaining to health systems agencies (HSAs), state certificate of need laws (CON), appropriateness review, and the required designations of state health planning agencies (SHPDAs) and state health coordinating councils (SHCCs).

Iowa has a new health planning configuration emerging in 1983. With P.L. 93-641 winding down, we are participating in the emergence of a new entity called the Health Policy Corporation of Iowa (HPCI). It is said the HPCI will be an action-oriented mechanism to furnish leadership and guidance in the management of the health care system — aiming its efforts at getting optimum results from the resources spent. HPCI direction is to come from a 21-member board representative of medicine, hospitals, other health providers, insurors (third parties), labor, management, county government, state government and consumers.

Iowa medicine recognizes in today's environment the process of delivering and financing health care can and should proceed only after careful planning has taken place and involving those elements which have a definite and important role in the total process. The principal thrust of the medical profession has centered on the assurance of quality. This will continue as our point of emphasis as medicine remains active and vigorous in the ongoing health planning process.

PRINCIPLE — COOPERATIVE LEADERSHIP

As Iowa physicians, we believe careful and orderly thought needs to be given the continuing evolution of health care delivery in Iowa. We believe in voluntary locally-based health planning with support and expertise furnished at a state level, where indicated. We believe health planning should follow a collaborative philosophy with participation by organizational representatives and interested individuals. We believe health planning should be a deliberate, ongoing process, not given over to hasty decisions lacking the input of all key elements in the delivery system. We believe physician involvement in health planning is crucial, and that it should occur preferably through medical societies at the county and state levels.

CONCLUSION

The comments and principles expressed here are not meant to be poured in concrete. They need to be read by Iowa physicians and others; they need to be discussed, debated and updated as circumstances suggest.

They stand as an expression for the times. For, as Iowa physicians, we believe we have a responsibility to express our beliefs and press for the implementation of these beliefs as they relate to providing competent medical service with compassion and respect for human dignity.

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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

KNOWLEDGE AND WISDOM

Vitally important for a young man or woman is, first, to realize the value of education, and then to cultivate earnestly, aggressively, ceaselessly, the habit of self-education. Without fresh supplies of knowledge, the brain will not develop healthily and vigorously any more than the body can be sustained without fresh supplies of food. – B. C. Forbes (FORBES, June 20, 1983).

THESE WORDS are very appropriate to us in the profession of health care. The continuing advances in medicine are so complex in recent years that it is nearly mind-boggling to keep up with the innovations. Our profession has profited much from other technologies adding more and more to its complexities. Electronic technology, and that of the field of computers in general, makes it possible for us to provide data as well as care modalities which were only fantasies one or two decades ago.

All this has developed a complex dilemma for the practicing physician. Can he absorb enough of the growing complexities of technologic advances to continue a complete generalized practice of medicine, or has high technology promoted more and more need to highly specialized fields of practice? Will medicine as we have practiced in the past be mere history? Will the arts of physical diagnosis be relegated to a data bank from which diagnostic conclusions may be drawn?

The greats of medicine — Osler, Cushing, Bright, yes, Hippocrates and Razes, too — depended upon their perceptual skills to diagnose, and then their practical knowledge to teach. I would not argue that theirs was better medicine, for it is certain the technologic skills of today provide our patients better expertise in health care. My point is, we must still deal with the patient as a person . . . "hands on" medicine if you will.

Wisdom is defined as "common sense," an understanding of what is true, right, or lasting. Thoreau stated it is a characteristic of wisdom not to do desperate things. An old Japanese proverb says it differently: "Knowledge without wisdom is a load of books on the back of an ass." As we gain knowledge through these fascinating technologic advances, we must not abdicate our responsibilities to the need for wisdom.

Medicine is a personal profession. Though we deal with calculated data, equating these data against norms, our foremost concern should be for the patient as a person; often a frail human being in need of compassion and heart-to-heart understanding. Let us not become too dogmatic about our methods and forget the patient is a feeling individual. Also, let us not forget the patient's family in the total picture. Recently, I overheard a young physician bemoaning the interference by relatives of a patient seeking knowledge of the patient's status. Their desires are often of a loving nature to help that patient during times of trial and distress. Very little time is actually required to inform grandmother (within the confines of privileged communication) about a grandchild she loves dearly.

The development of wisdom is education not taught in schools and universities. Wisdom comes with experience. Knowledge is a process of accumulating facts; wisdom entails the simplification of those facts. — M.E.A.

MINNESOTA MEDICAL ASSOCIATION

Resource Group on Rheumatic Diseases

Presents

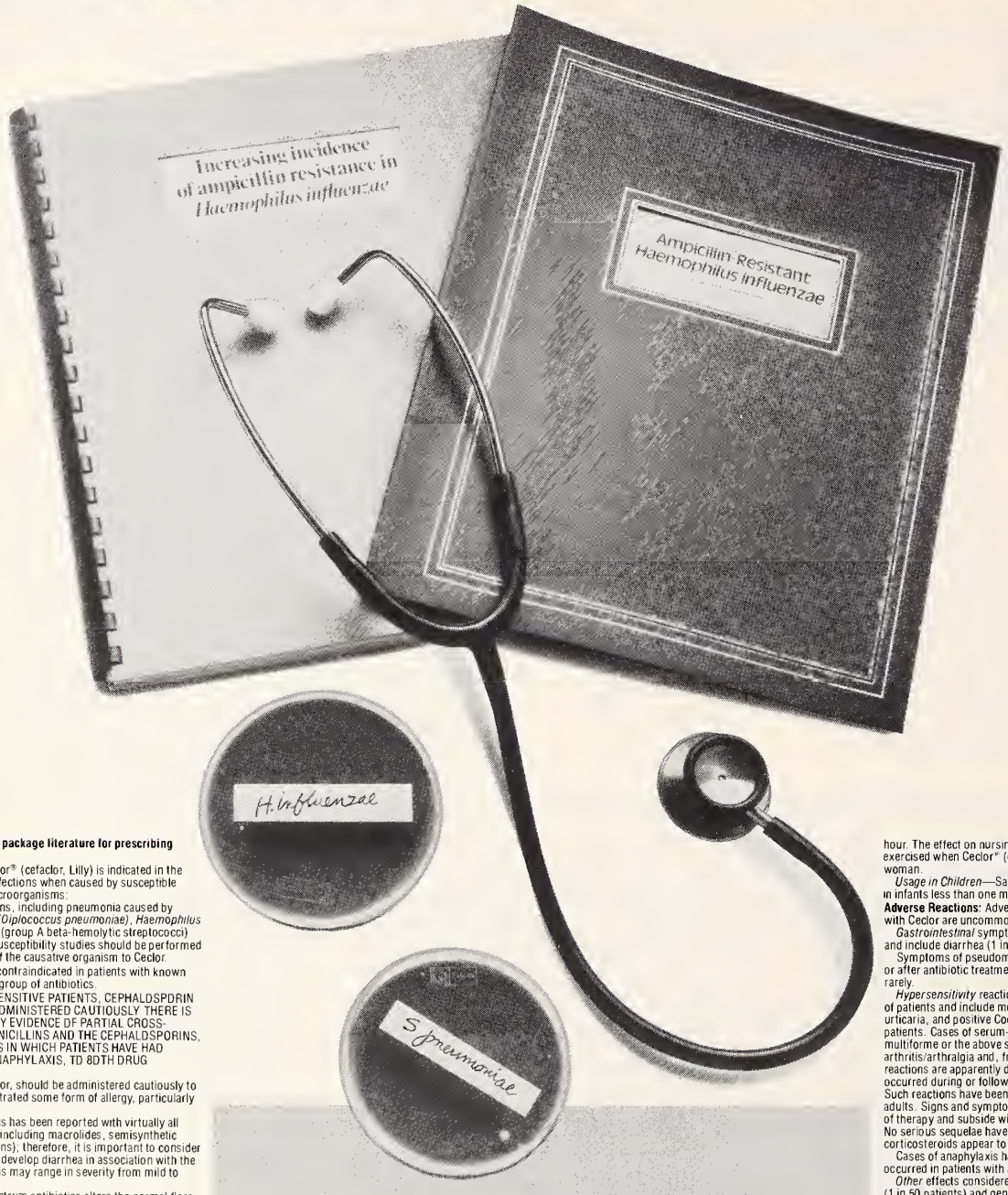
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An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor
Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALDSPDRIN ANTIBIOTICS SHDULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATDRY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALDSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIDNS, INCLUDING ANAPHYLAXIS, TD 8DTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGDT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

TOWARD BETTER HEALTH EDUCATION IN SCHOOLS

THAT WE HAPPEN to have a state law requiring school districts to have a Kindergarten-through-twelfth-grade health education curriculum doesn't mean that much really happens. Without financial support, certified teachers, suitable curriculum and supporting materials, or much public clamor, the school districts aren't likely to move this issue to a front burner.

The Iowa Department of Public Instruction authorized a committee to work on the problem, and in October, 1979, that department distributed a questionnaire designed to help the districts assess their present activities and thereby identify deficiencies. In September, 1982, I wrote here about that effort to help the school districts of Iowa work toward a more comprehensive and fruitful program of health education.

I'm pleased to report that the project has picked up steam. Much credit for that is due to the energy and participation of the IMS Auxiliary. Marion Wehyrauch, auxiliary chairperson, and staff members, especially Sandy Nichols and Dean Gillaspey, have nudged, worked and successfully involved some other organizations in this worthy quest. Participating physician groups include the Iowa Academy of Family Physicians; Iowa Chapters of The American Academy of Pediatrics, American Cancer Society, American Heart Association and American Lung Association; and, of course, the IMS.

Recognizing how many health problems would be preventable through widespread adoption of sound health attitudes and habits, and emboldened by their confidence that such attitudes and habits could best be developed by effective and repeated efforts during the childhood years, these groups have taken initiative in a big way. The payoff for their first effort will appear as a series of four conferences to take place this fall. Because Governor Branstad recognizes the merit of this project and has added his support, the series is being publicized as the Governor's Conferences on K-12 Comprehensive School Health Education. The schedule:

Des Moines	October 5	Drake University
Sioux City	October 25	Morningside College
Cedar Falls	November 4	University of Northern Iowa
Bettendorf	November 9	Jumer's Castle Lodge

Here's what the conferences will try to achieve: (1) Emphasize the importance of K-12 comprehensive health education in the schools and the obligation to provide such programs. (2) Demonstrate that the implementation of K-12 comprehensive health education is possible without great cost. (3) Broaden awareness of health education resources and materials for classroom use. (4) Encourage a network among schools for the sharing of information about programs. (5) Stimulate all Iowa school districts to incorporate an excellent K-12 comprehensive health curriculum.

What can physicians do to add their support? You might consider attending, or inviting your spouse or one of your office helpers to attend. Maybe of even greater value would be to *ask your county medical society to sponsor the attendance of one or several persons that would be especially influential:* a school board member, a parent, a school administrator, a school nurse, a teacher or a student. If such a team from your community were to attend, the odds are much improved that some really good action would follow.

The conference registration fee is only $10 per person. And think of the satisfaction that you and your county medical society could feel in paying those expenses. For more information, call Sandy Nichols at the IMS (800/422-3070).

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

REYNOLD SPECTOR, M.D., Editor

TRICYCLIC ANTIDEPRESSANT OVERDOSE

DELIBERATE self-poisoning with tricyclic antidepressant drugs (TCAs) has become a major medical problem due to the frequency of its occurrence and the potential severity of its clinical manifestations. Overdoses with TCAs are the most common drug overdoses admitted to the intensive care unit (ICU) at University Hospitals, accounting for 37% of all ICU admissions for drug overdoses during 1978-79.[1] In the United Kingdom, deaths due to TCA overdose accounted for 12% of all drug overdose deaths in 1975; the majority of TCA-related deaths occurred outside the hospital.[2] However, despite intensive care in hospital, a small percentage of patients with TCA overdose die due to toxicity of the drug. This review will focus on the clinical presentation, evaluation, and treatment of patients who overdose with the standard TCAs (imipramine, desipramine, amitriptyline, nortriptyline, and doxepin). Finally, overdose with the newer antidepressants will be briefly reviewed.

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

PHARMACOLOGY

In order to understand intoxication with TCAs, their pharmacological properties, relevant pharmacokinetics, and dosage implications will be briefly reviewed.[3] TCAs block the reuptake of amine neurotransmitters and therefore, have sympathomimetic effects; they also have anticholinergic and sedative effects. In high doses, TCAs decrease conduction velocity in the heart and may be associated with decreased cardiac contractility. In overdose, TCAs are slowly and erratically absorbed; peak concentrations in the plasma may not occur until greater than 12 hours after ingestion. TCAs are weakly basic drugs and are very lipid soluble and, despite a high degree of plasma protein binding, these drugs have very large volumes of distribution with concentrations in the brain and heart manyfold greater than in the plasma. TCAs are metabolized in the liver and have long elimination half-lives, varying between 12 to 81 hours after overdoses.[3] Therapeutic doses of most standard TCAs vary between 75 to 200 mg/day. Potential life-threatening manifestations may occur at doses exceeding 500 to 750 mg in adults.[4]

CLINICAL PRESENTATION

Patients with TCA overdose may develop a variety of symptoms and signs of intoxication. Initial manifestations involve the central nervous system and may include agitation, confusion, and hallucinations with increased deep-tendon reflexes. Lethargy followed by coma may ensue; respiratory depression and seizures may occur in the more severe intoxications. Also, patients may exhibit dysconjugate gaze, abnormal movements (twitching, choreoathetosis), and extensor plantar responses. Cardiovascular manifestations of intoxication are frequent and may be life-threatening. Sinus tachycardia is common and ventricular premature beats may be observed. Prolongation of the QRS interval may occur in addition to lengthening of the PR and QT intervals. Bizarre, wide-QRS rhythms may occur;

differentiation of supraventricular arrythmias with aberrant conduction from ventricular arrythmias may be difficult. Ventricular fibrillation or asystole is rare.[5, 6] Although hypertension may occur with TCA overdose, hypotension is more common and may result in a fatal outcome. Anticholinergic manifestations including dilated pupils; flushed, dry skin and dry mucous membranes; decreased bowel sounds; and urinary retention also may be present.

CLINICAL EVALUATION

Obtaining a history from the patient or other observers (family members, friends, paramedics, etc.) is of cardinal importance in the evaluation of patients with suspected acute drug overdose. Determination of the exact agent(s) ingested, the quantity taken, and the time of ingestion is essential. The finding of suicide notes or empty pill bottles at the scene add confirmatory information. The history of past and present medical problems, current medications, and allergies also should be obtained.

Physical examination should note carefully the vital signs including body temperature which may be increased or decreased after TCA overdose. The patient's mental status and its course over time are similarly important. Cutaneous signs of tissue perfusion and evidence of trauma in comatose patients should be carefully sought. Neurologic status including pupillary responses, extraocular movements, and the presence of focal neurologic signs should be carefully determined.

Baseline laboratory values should be obtained in all TCA overdose patients including CBC, electrolytes, blood glucose, BUN, creatinine, liver function, and clotting tests. Arterial blood gases are essential to determine if metabolic and/or respiratory acidosis are present. An electrocardiogram and subsequent cardiac monitoring should be performed routinely.

Quantitative determination of the offending drug level in the plasma of patients with suspected drug overdose is helpful to confirm the diagnosis. TCA plasma levels are not currently available on a stat basis at University Hospitals. However, a semiquantitative assay for TCA (positive if serum level is potentially toxic [greater than 300 ng/ml]) may become available in the near future.

TREATMENT

The primary concern in the initial management of overdosed patients is to provide support of the patient's vital signs. If the airway or respirations are inadequate, immediate correction of these abnormalities is vital, including the placement of a cuffed endotracheal tube and mechanical ventilation if necessary. The adequacy of the circulation (pulse, blood pressure, tissue perfusion) must be assessed and an intravenous line established. Specific treatment of circulatory abnormalities will be discussed below. Comatose patients should receive 50 cc of 50% dextrose in water intravenously (IV) (after a blood specimen for glucose has been obtained) and, if no response occurs, naloxone 0.4 mg (1 ml) should be administered IV and repeated in 5 minutes if no or minimal response occurs. Parenteral thiamine should be administered if indicated.

After stabilization of the vital signs, attention should be directed to the removal of unabsorbed drug from the gastrointestinal (GI) tract. Patients who are and will remain alert (with an intact gag reflex) should receive syrup of ipecac 30 cc to induce emesis. In patients with a depressed sensorium and/or depressed pharyngeal reflexes, the induction of emesis carries the risk of aspiration of gastric contents. Therefore, gastric lavage through a large bore stomach tube should be performed after placement of a cuffed endotracheal tube. (In the stuporous patient, the administration of a short-acting paralyzing drug may facilitate the safe placement of cuffed endotracheal and naso- (or oro-) gastric tubes.) A single dose of activated charcoal (40 gm) should be administered orally or through the nasogastric tube to absorb the drug in the GI tract and prevent its systemic absorption. A cathartic (e.g., sodium sulfate) should also be administered. Multiple doses of activated charcoal have been shown to further reduce absorption of orally administered TCAs[7] and actually increase the clearance of other intravenously administered drugs. Therefore, additional doses of activated charcoal (20 gm) may be administered every 2 to 4 hours until the manifestations of TCA intoxication have abated.

The cardiovascular manifestations of TCA intoxication described above, including arrythmias and hypotension, may be treated with

(Please turn to page 322)

(Continued from page 321)

prophylactic measures and/or specific therapeutic interventions as described below. Intravenous infusion of sodium bicarbonate ($NaHCO_3$) to maintain the arterial blood pH between 7.45 and 7.50 may be helpful in prophylaxis against or treatment of many of the arrythmias associated with TCA intoxication. Studies in TCA-intoxicated patients[8] and experimental studies in dogs have suggested the efficacy of this treatment and the clinical experience of our group supports the utility of $NaHCO_3$ therapy. Arrythmias requiring treatment and not responding to systemic alkalinization with $NaHCO_3$ may be treated with either intravenous lidocaine[5] or phenytoin.[9] (Phenytoin must be administered slowly to avoid hypotension.) Quinidine and procainamide, which may further decrease cardiac conduction, are contraindicated in TCA overdose. Hypotension may occur frequently in patients with TCA overdose. Hemodynamic studies suggest that hypotension may be caused, in part, by intravascular volume depletion.[5] Therefore intravenous fluids (isotonic) should be infused initially to correct hypotension. In patients in whom fluid overload is a potential danger, $NaHCO_3$ may be added to hypotonic fluids (D_5W with or without saline) in order to provide an approximately isotonic fluid for volume replacement and systemic alkalinization. Hypotension not responding to the above measures may be treated with the cautious administration of sympathomimetic amines[5] (dopamine or norepinephrine). Hemodynamic monitoring may aid in the evaluation and treatment of patients with severe, unresponsive hypotension.

Seizures may occur in TCA intoxication. Intravenous diazepam is the initial treatment of choice. Severe, recurrent seizures, although uncommon, should be treated additionally with loading doses of phenytoin, and possibly phenobarbital. Intravenous phenobarbital must be administered cautiously because respiratory depression may be worsened and hypotension may occur.

In the past, physostigmine administration was recommended to reverse central anticholinergic and other manifestations of TCA toxicity. However, physostigmine may precipitate a cholinergic crisis including bradycardia, hypersalivation, and increased bronchial secretions; atropine may be required to counteract these effects.[10] Also, physostigmine, if administered rapidly IV, may precipitate seizures. Therefore, physostigmine should be reserved for life-threatening manifestations of TCA intoxication (e.g., progressive widening of the QRS complex, status seizures) not responding to therapies described above.

The supportive therapies described above are effective in the management of most cases of TCA intoxication. Cardiac monitoring should be continued for approximately 12 hours after clinical and electrocardiographic recovery.[6] Longer periods of monitoring, routinely recommended in the past, are no longer felt to be necessary in patients without other medical complications. Hemodialysis or hemoperfusion is not effective for TCA intoxication because, even if the plasma were cleared completely during these procedures, very little drug would be removed due to the enormous volume of distribution of these agents.[3] Concerning the rare patient who develops asystole after TCA overdose, prolonged external cardiac massage has resulted in a favorable outcome in several patients.[11]

NEWER ANTIDEPRESSANT AGENTS

The severe cardiac manifestations of overdose with the standard TCAs have, in part, resulted in the development of newer antidepressant drugs without pronounced cardiac toxicity. Maprotiline, amoxapine, and trazodone recently have become available in the U.S. Maprotiline has been associated with an increased incidence of seizures after therapeutic doses of the drug;[12] after maprotiline overdose, the seizures which may occur usually respond to the conventional anticonvulsant drugs described above. Amoxapine overdose has been associated with severe recurrent seizures, metabolic acidosis, and persistent neurological deficits in 2 patients treated at University Hospitals;[13] acute renal failure has been recently reported after amoxapine overdose.[14] There is little clinical experience with overdose with trazodone, the most recently marketed antidepressant.

CONCLUSION

In conclusion, the severity of TCA overdose demands great care in dispensing these drugs

to potentially suicidal patients. Therefore, the outpatient supply should be limited to 750 mg if possible or daily administration of these drugs by another responsible individual should be considered. Patients who overdose with TCAs require careful monitoring and the supportive care measures described above. Although the newer antidepressants may have a lessened incidence and severity of cardiovascular complications when taken in overdose, other organ system toxicities may result. —Mark J. Goldberg, M.D., Assistant Professor of Medicine and Pharmacology.

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STATE DEPARTMENT/ PUBLIC HEALTH

SERVING MENTALLY RETARDED/ DEVELOPMENTALLY DISABLED PERSONS IN HEALTH CARE FACILITIES

THE PURPOSE of facility licensure, as stated in Chapter 135C. Code of Iowa, is to serve "mentally" as well as "physically" dependent individuals. Historically, however, the emphasis of the Health Facilities Division has been on the physical needs of individuals in health care facilities. The special needs and opportunities involved in serving the mentally retarded are relatively new to us. We may still be less than fully sensitive to certain principles that should pertain.

Application for participation in the Title XIX-ICF/MR program was received from the 2 State Hospital-Schools (Glenwood and Woodward) resulting in facility surveys in 1975. With resulting certification of the 2 State Hospital-Schools, it became obligatory to provide equal opportunity for the certification of community based facilities. To accommodate this process, as mandated in Chapter 135C., Code of Iowa, Chapter 64, *Rules and Regulations Setting Minimum Standards for Intermediate Care Facilities for the Mentally Retarded* were developed. As allowed in Chapter 135C., Code of Iowa, Chapter 63, *Rules and Regulations Setting Minimum Standards for Residential Care Facilities for the Mentally Retarded* were also developed.

The basic difference in facilities serving the mentally retarded is to be seen in the area of habilitation. Where the primary problem is that of mental retardation, whatever the degree of retardation may be, there is potential for training. The objective of training is to prepare the individual to attain an increasing level of independence, and to prepare the individual for living in a less restrictive environment. In facilities serving the mentally retarded, we expect to see programs which are directed at this goal.

In assessing programs directed toward habilitation the SDH is interested in a process which extends from an evaluation of the individual through re-evaluation, on a continuing basis. The process is as follows:

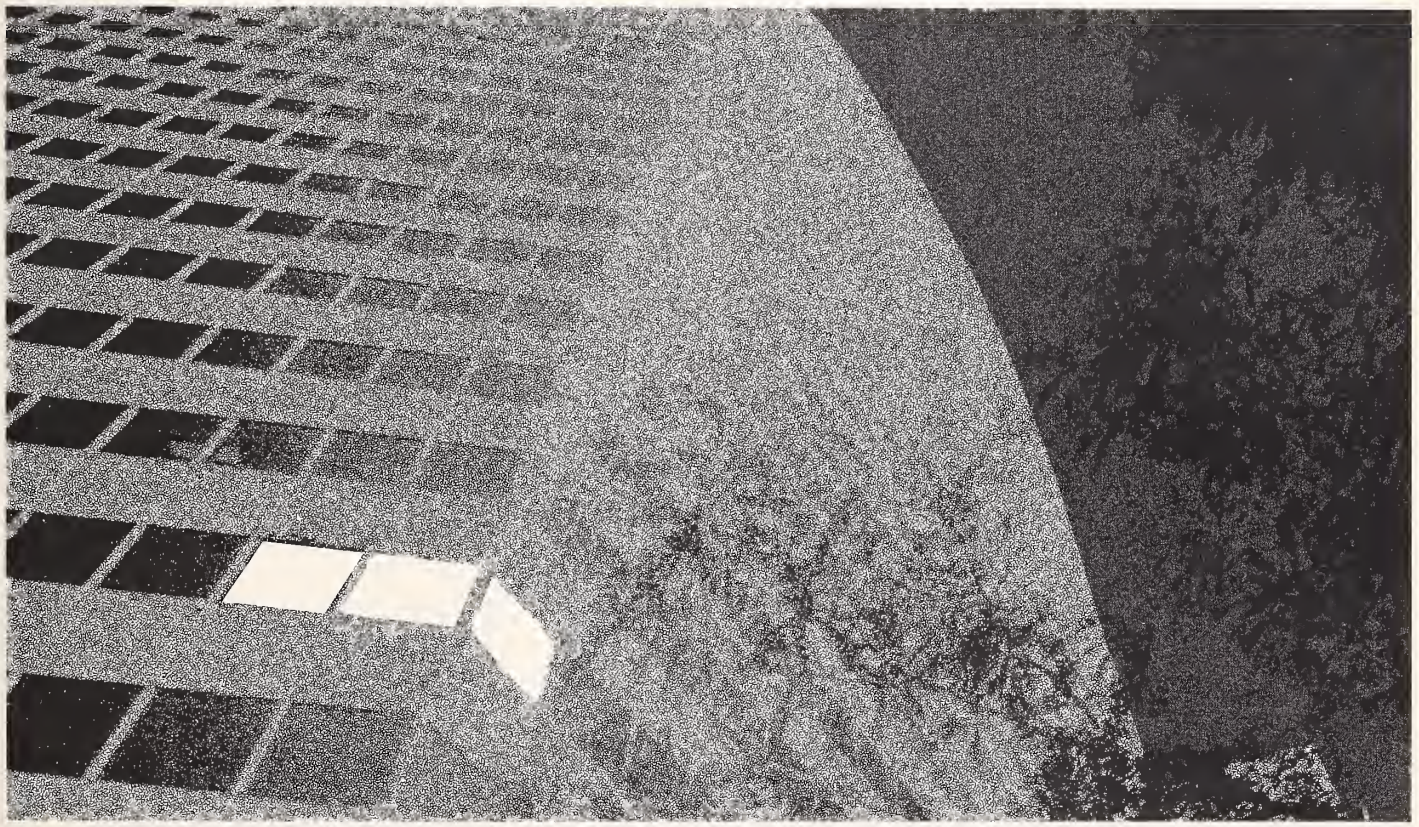
- An evaluation of the individual is done by knowledgeable and professional persons as a base of reference. Persons from all pertinent disciplines, who are able to provide relevant information, should be involved in this phase. Within a month in a particular setting, as dictated by actual observation, the evaluation is to be updated.
- From the evaluation, and activity related thereto, an assessment is to be made. The needs of the individual are listed to facilitate the progression toward greater independence. The strengths of the individual are measured so they can be used effectively in his/her training.
- An individualized program plan is then to be developed by an interdisciplinary team, targeted to correcting the deficiencies identified in the assessment. The plan must be manageable, not all needs can be worked on at one particular time, and sequential, some skills require attention before others can be addressed. The plan is to include measurable goals and objectives.
- Implementation of the individualized program plan is to follow. Certain principles are of importance in the training of individuals; included here is consistent and continuing documentation to determine whether the plan is accomplishing what is intended.
- Monitoring of the program and plan is a continuing responsibility. There needs to be a regular, at least annual, re-evaluation. With this the process is repeated.

This is not to say that other problems are to

(Please turn to page 326)

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STATE DEPARTMENT/PUBLIC HEALTH

(Continued from page 324)

be disregarded. Health and physical needs must be met. While the mentally retarded have the right to "risk," reasonable safety practices are expected. A great deterrent to training is maladaptive behavior; before real training can occur it may be necessary to engage in programs to modify such behavior.

Good programs are expensive. Apart from the moral issue, which would dictate that each individual should have the right to develop his/her potential, it can be argued that good and successful programs will result in greater productivity, and consequently less total cost to society. The actual potential of retarded individuals is significantly greater than is commonly supposed.

In Iowa and the United States, we have made great progress in serving mentally retarded individuals. Much more progress remains to be made.

For this to happen cooperation is needed among a number of forces, including support agencies, advocacy groups, providers of a variety of services, as well as the regulatory agencies. Of particular importance is the sensitivity of the general public, along with the medical community, to the presence and potential of the mentally retarded in our society.

June 1983 Morbidity Report

Disease	June 1983 Total	1983 to Date	1982 to Date	Most June Cases Reported From These Counties
Amebiosis	3	25	47	Boone, Johnson
Brucellosis	0	0	1	
Chickenpox	365	5480	5840	Scottered
Compylobocter	41	114	115	Scottered
Cytomegolovirus	1	8	24	Polk
Eoton's Agent infection	2	100	107	Keokuk, Morion
Encepholitis, virol	3	21	11	Linn, Pottowottomie
Erythemo infectiosum	0	25	246	
Gostroenteritis (GIV)	431	8499	7915	Scottered
Giordiosis	11	80	54	Scottered
Hepatitis, A	0	17	47	
Hepotitis, B	6	43	53	O'Brien, Polk, Woodbury, Worth
Hepotitis, Non A-B	1	22	7	Boone
Hepotitis type unspecified	1	7	16	Block Howk
Herpes Simplex	66	489	180	Scottered
Herpes Zoster	0	6	10	
Histoplosmosis	2	12	14	Johnson, Polk
Infectious mononucleosis	15	117	127	Scottered
Influenzo, lob confirmed	7	107	73	Johnson, Polk, Scott
Influenzo-like illness (URI)	935	28311	26676	Scottered
Legionellosis	0	3	16	
Molorio	0	2	0	
Meningitis				
oseptic	2	28	17	Johnson, Linn
bocteriol	10	84	92	Scottered
meningococcol	2	13	5	Polk, Webster
Mumps	0	35	29	
Pertussis	1	5	3	Clorke
Robies in onimols	31	134	208	Scottered
Reye Syndrome	1	1	4	Linn
Rheumotic Fever	1	1	3	Dubuque
Rubello (Germon meosles)	0	0	0	
Meosles	0	0	0	
Solmonellosis	25	106	136	Scottered
Shigellosis	5	17	21	Polk, Story, Woodbury
Toxic Shock Syndrome	1	10	8	Scott
Tuberculosis				
totol ill	4	36	43	Clinton, Polk, Scott, Webster
boct. pos.	2	26	32	Polk, Webster
Typhoid Fever	0	0	1	
Venereol diseoses:				
Gonorrheo	325	2163	2268	Scottered
Syphilis	3	7	17	Grundy, Muscotine, Polk

Loborotory Virus Diognosis Without Specified Clinicol Syndrome: Kowosoki — 1, Scott.

ABOUT IOWA PHYSICIANS

Drs. R. Bruce Dunker and **John Justin,** Mason City physicians, were program participants at a recent symposium on perinatal care in Clear Lake. . . . **Dr. Shiro Shimosato,** professor, U. of I. Department of Anesthesia, recently received a top honor from the Anesthesia Foundation. Dr. Shimosato received $5,000 for his book, "Anesthesia and Cardiac Performance in Health and Disease," judged as the best book published in the field of anesthesia in the past three years.

Dr. Thomas A. Ericson, Des Moines, recently completed a temporal bone dissection course sponsored by the E.A.R. Foundation in Nashville, Tennessee. . . . **Dr. James D. Cassat,** Ames, has received certification from the American Board of Surgery. A native of Clarinda, Dr. Cassat received the M.D. degree at the University of South Dakota. He had his surgery residency at Sacred Heart Hospital in Yankton, South Dakota, and Veterans Administration Hospital in Sioux Falls, South Dakota. . . . **Dr. Dianne McConnell** recently began family practice in Monona. A native of Ontario, Canada, Dr. McConnell attended medical school at McMaster University in Hamilton, Ontario. . . . **Dr. Dale D. Morgan** has been elected president of the Linn County Medical Society; **Dr. Robert L. Swaney,** president-elect; **Dr. Lawrence C. Strathman,** vice president and **Dr. Mark J. Tyler,** secretary-treasurer.

Dr. R.C. Larimer, Sioux City, recently was re-elected to the board of directors for Blue Cross

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of Western Iowa and South Dakota. . . . **Dr. Bruce Neiger** recently joined the Bluff Medical Center in Clinton. Dr. Neiger received the M.D. degree at the University of Minnesota and completed his residency in obstetrics and gynecology at Women's Hospital at the University of Southern California, Los Angeles, California. Prior to locating in Clinton, Dr. Neiger practiced in Louisville, Kentucky. . . . **Dr. Lawrence C. O'Toole,** retired LeMars physician, recently was honored for his 40 years on the board of directors of Security Savings Bank in Eagle Grove. Dr. O'Toole joined the LeMars Clinic in 1929 where he practiced until his retirement in 1976. . . . **Drs. James A. Briles** and **Larry R. Lamberty** recently joined Onawa physicians, **Drs. W. P. Garred** and **R. M. Roth.** Dr. Briles received the M.D. degree at the U. of I. College of Medicine and completed his family practice residency at Mercy and St. Luke's hospitals in Davenport. Dr. Lamberty received the M.D. degree at the University of Nebraska School of Medicine and completed his family practice residency in Washington, Pennsylvania. Prior to locating in Onawa, he practiced in North Platte, Nebraska.

Dr. Erling Larson, Davenport, IMS president, recently received the University of Iowa's Distinguished Alumni Award. A Davenport physician since 1954, Dr. Larson serves as a clinical associate professor of internal medicine at the U. of I. College of Medicine. He has donated more than 1,000 hours of instructional time to the Family Practice Residency Program at Mercy and St. Luke's Hospital in Davenport. He has been a member of the U. of I. Foundation board of directors since 1973, was its president from 1978 to 1981 and is an honorary lifetime director of the Foundation. He was awarded the Hancher Medal at the University's Finkbine Awards dinner in 1979. . . . **Dr. Donovan F. Ward,** Dubuque, recently was elected vice president and treasurer of the Board of Directors for the American Health Care Advisory Association. Dr. Ward is currently national director of the AHCAA. He is a

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past president of the American Medical Association. . . . **Dr. Edwin A. Motto,** Davenport, recently was named the Iowa Internist of the Year by the Iowa Clinical Society of Internal Medicine. Dr. Motto is a clinical associate professor of internal medicine at the U. of I. College of Medicine and has taught in the Mercy-St. Luke's Family Practice Residency Program since it began in 1976. He is a past president of the Iowa Heart Association and the Scott County Medical Society.

DEATHS

Dr. John P. Barthel, 59, died June 7 at Mercy Hospital in Cedar Rapids. Dr. Barthel received the M.D. degree at the University of Maryland Medical School in Baltimore; and interned at St. Luke's Hospital in Cedar Rapids. He was a past president of Mercy Hospital medical staff; charter member of the American Academy of Family Practice and World War II veteran.

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In The Public Interest

These Are Our Beliefs

READERS of the August 1983 JOURNAL OF THE IOWA MEDICAL SOCIETY have a special supplement to peruse. It's a bit unique at least in the recent annals of Iowa medical history.

This eight-page booklet is entitled, *These Are Our Beliefs*. And it sets forth, in necessarily brief terms, seven statements of principle. They cover most of the main aspects of health care delivery in Iowa today.

This 1983 IMS Credo of Principle and Philosophy was proposed by the seven Society officers who make up the IMS Board of Trustees. It was drafted early in 1983. Then the okayed version was presented to the policy-making IMS House of Delegates in May.

The IMS House of Delegates is a body of 238 Iowa physicians. Its members represent the 90-plus county medical societies. The 1983 IMS House approved the document and requested it be distributed as a "dynamic statement of our times."

Thus, the credo is being circulated, through the IMS JOURNAL, to individual Society member physicians. It is being sent additionally to presidents and secretaries of county medical societies. These local medical leaders are encouraged to discuss it with the idea of recommending additions or offering possible changes to be considered by the 1984 House.

Moreover, plans are to send the booklet to other persons and organizations interested in Iowa health care delivery. It will furnish them with the basic beliefs of the medical profession. By having it in black and white, the basic philosophical posture of Iowa medicine will be available for review, support or disagreement.

The topics covered in the credo touch most of today's health care landscape. The areas addressed in the 1983 IMS Credo are these:

ASSURANCE OF QUALITY — This first and fundamental statement of principle identifies quality as the bedrock of medical care. It declares that the Iowa medical profession has to accept the responsibility for assuring the presence of quality care.

ECONOMIC CONCERN — We acknowledge the significant public concern over health care costs. The subject belongs high among the priority items on the agenda of the medical profession. The Iowa physician is responsible, it declares, to deliver quality care to his/her patients in an appropriate amount at a fair cost.

OPENNESS TO INNOVATION IN HEALTH CARE DELIVERY — Innovation has a distinct place in the contemporary evolution of health care delivery. To this end Iowa physicians are responsible to provide essential medical leadership in the ongoing consideration of changes in Iowa health care delivery.

A COMPETITIVE MARKETPLACE — This principle calls competition healthy. However, it says such competition should be open and honest. We believe ethical medical practice thrives under free market conditions where prospective patients have adequate information and opportunity to choose between and among competing physicians and alternate systems of medical care.

PROFESSIONAL RESPONSIBILITY — Medicine is responsible professionally to assure the quality and appropriateness of the medical care provided our Iowa citizens. A local peer review process is best to accomplish this, using added levels of guidance and support.

PROMOTION OF GOOD HEALTH — The medical profession needs to be the role model for healthy living. Physicians are obliged to serve as community resources in the promotion of well-being and the provision of health education.

COOPERATIVE LEADERSHIP — Physician involvement in health planning is crucial. It should occur in a collaborative environment with participation by other organizational representatives and interested individuals. It needs to be done carefully and orderly.

This 1983 IMS credo is worthy of reading in its entirety. Its purpose is several-fold. Obviously, agreement with its principles is desired. But even where there is a thoughtful difference, a purpose will have been served.

August 1983

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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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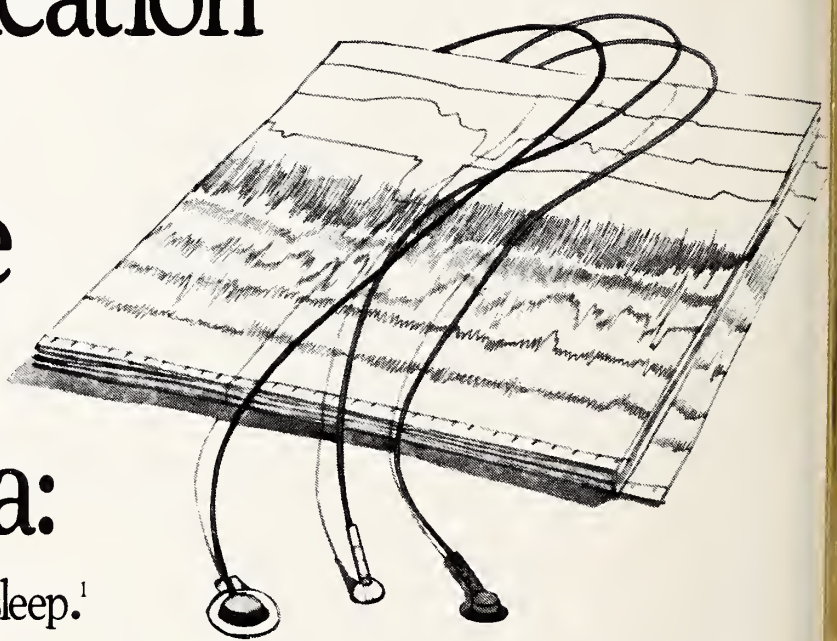
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JOURNAL OF THE IOWA MEDICAL SOCIETY

SEPTEMBER 1983/VOLUME 73 NUMBER 9

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ABOUT THE COVER — Changes in the Iowa hospital reimbursement system are coming at a fast clip. As a consequence, upon entering the era of the diagnosis related group, Iowa physicians need to understand as much as possible about the impact of these new payment provisions. An overview discussion of the subject appears in this issue.

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"UPDATE ON DIABETES"

WEDNESDAY, SEPTEMBER 28, 1983

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GUEST FACULTY:

DAVID BELL, M.D.

ASSOCIATE PROFESSOR OF MEDICINE
DIRECTOR OF CLINICAL SERVICE
DIABETES RESEARCH AND
EDUCATION CENTER
UNIVERSITY OF ALABAMA

TOPICS: "OCULAR MANIFESTATIONS OF DIABETES" and "DIABETIC NEUROPATHY"

JULIO SANTIAGO, M.D.

PROFESSOR OF MEDICINE
WASHINGTON UNIVERSITY
IN ST. LOUIS

TOPICS: "HOME MONITORING OF DIABETICS" and "THE INSULIN PUMP"

JAMES R. GAVIN, III, M.D., PH.D.

ASSISTANT PROFESSOR OF MEDICINE
WASHINGTON UNIVERSITY
IN ST. LOUIS

TOPICS: "NEWER INSULINS FOR THE 80'S" and "INSULIN RECEPTOR DEFECTS IN INSULIN-RESISTANT DIABETES"

BARRY GINSBERG, M.D., PH.D.

ASSOCIATE PROFESSOR OF MEDICINE
(ENDOCRINOLOGY)
UNIVERSITY OF IOWA

TOPICS: "ORAL HYPOGLYCEMIC AGENTS" and "TIGHT CONTROL OF DIABETICS"

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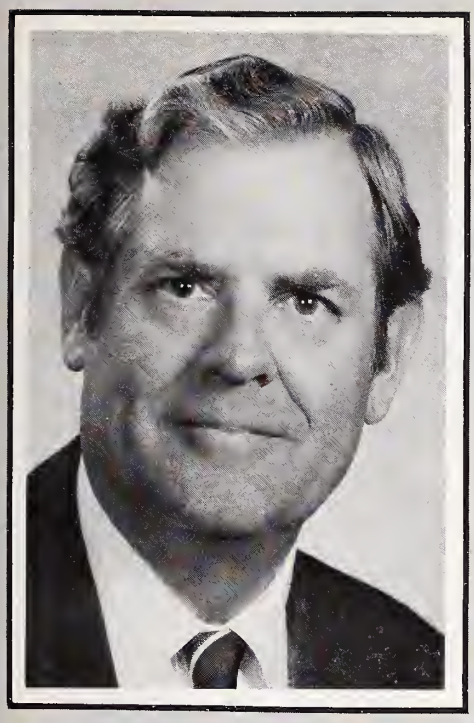
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PRESIDENT'S PRIVILEGE

WE HEARD about the new ballgame!

On July 28, Paul Ferguson, Mary Gannon, Bob Kollmorgen, Clarence Denser, Al Havlik, Bob Mandsager and some 20 other Iowa physicians attended a Des Moines conference on the new prospective payment system (PPS). The IMS helped sponsor the meeting. The attendees were hospital trustees, administrators, etc., in addition to the good turnout of physicians.

The speakers examined the scenario that's brought us to the DRG doorstep. The message was not brand new, yet it was emphatic: *How physicians and hospitals work together will dictate who will survive!*

It was acknowledged the immediate impact on physician economics may be less dramatic, but impact it will. Importantly, however, Congress has mandated HHS to conduct studies on the advisability and feasibility of including other items, including physicians' fees, under the PPS. This study is due to Congress by 1985.

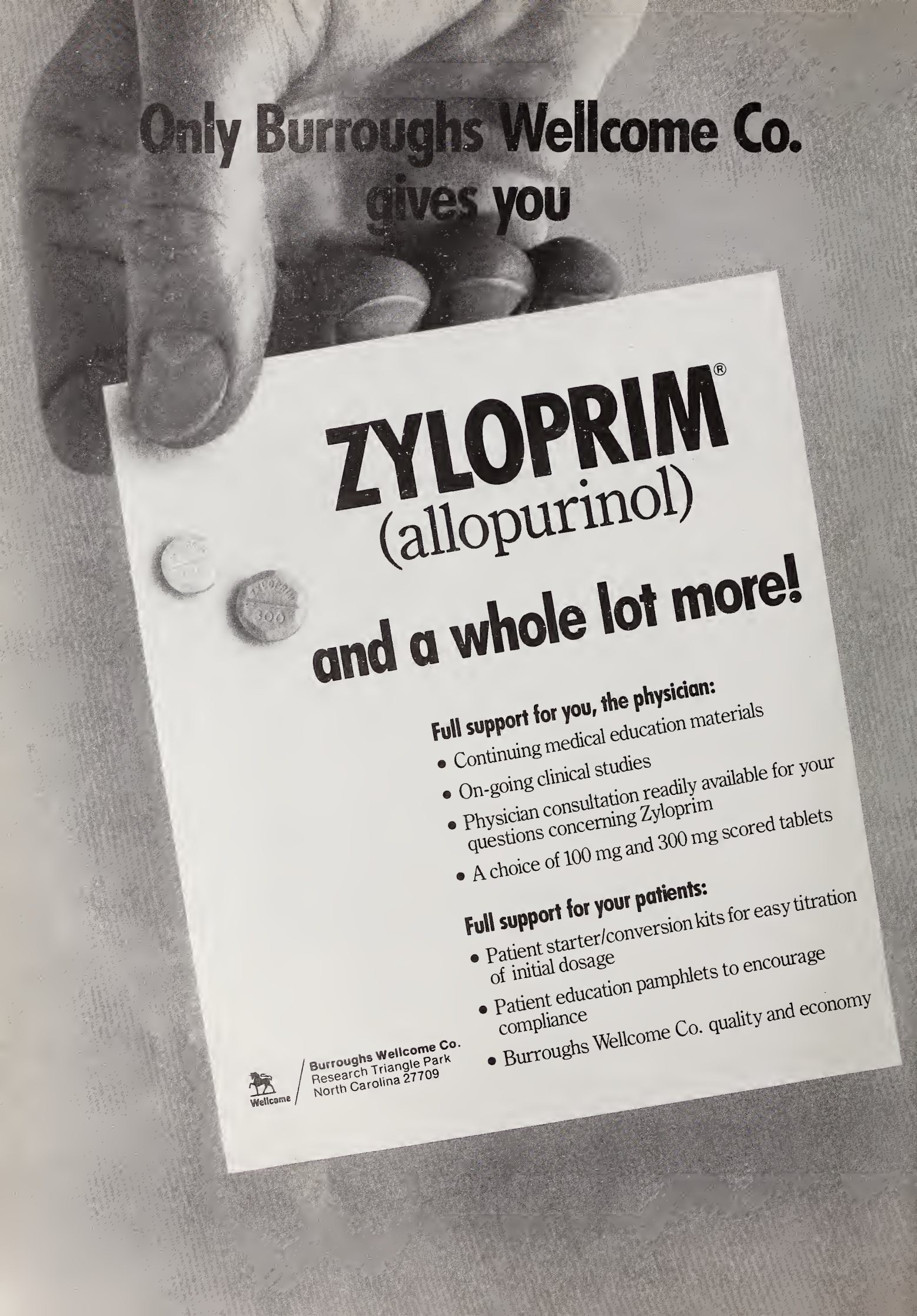
To help increase your understanding of the federal prospective payment system for hospitals, this issue of the JOURNAL contains several commentaries about the impending hospital reimbursement changes. We urge you to read on.

An excerpt in a recent report from the AMA Council on Medical Service to the 1983 House of Delegates provides a good conclusion to these short remarks (and it's basically what we heard at the Des Moines conference): *Because of the phase-in nature of the program (the DRG-based prospective hospital pricing system for Medicare patients), it is unlikely that major fiscal impacts will be felt immediately. However, hospital management will almost assuredly be seeking now to reduce length of stay and use of ancillary services to conform to anticipated DRG payment rates. Hospital medical staffs will need to monitor utilization patterns even more carefully if detrimental impacts on the quality and accessibility of care are to be minimized; and (these staffs) may find themselves in new and evolving relationships with hospital administration.*

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QUESTIONS - ANSWERS

John A. May, M.D.
Des Moines

THE IMPACT OF DRG

The new Medicare Prospective Payment System has its beginning in October. John A. May, M.D., comments on the advent of DRG from his perspective as medical director of Blue Cross/Blue Shield, the Medicare carrier for Iowa.

From your perspective, what impact is the DRG system going to have on the Iowa physician?

The Medicare Prospective Payment System (PPS) was signed into law by President Reagan on April 22 as part of the Social Security Amendments of 1983. This law will have a profound effect on the way hospitals do business and, therefore, will have a direct effect on Iowa physicians. This effect will be felt most directly in two ways, billing arrangements with hospitals and the physician's use of hospital resources.

PPS requires that, effective October 1, 1983, hospitals must furnish directly, or "under arrangements," all items and non-physician services furnished to Medicare inpatients in order for these services to be covered. This provision includes physician charges for items or services "incident to"* their professional services. Examples of items include prosthetic devices, including pacemakers, implant lenses and artificial limbs. This also includes CRNA and other medical and health services previously billed by physicians as "incident to" services.

Under PPS, the hospital will be paid a prospectively determined amount for a given DRG. This amount is Medicare's full settlement to the hospital, irrespective of the beneficiary's length of stay or ancillary charges. There is some "exception" payment that will be made for atypical cases (outliers), however. The physician will directly impact the hospital's financial return on each case by the amount of hospital resources used.

What are the key points the Iowa physician should bear in mind as the DRG program emerges?

The physician should keep in mind how his/her actions will directly affect hospital reimbursement, both in terms of amount and timely payment.

PPS payment is based upon the assigned DRG. The DRG assignment is based upon the full ICD9CM diagnosis and surgical codes. Incomplete codes, inaccurate codes, or codes not noted will cause a delay in processing the final inpatient bill or result in a lower paying DRG. Specifically, the physician should:

- *complete patient charts timely;*
- *always utilize the most specific terminology possible;*
- *work with the hospital medical records staff to ensure that there are no problems interpreting the charts;*
- *work with medical records to ensure that all staff are aware of the DRG assignment process and the impact of proper coding of this process;*
- *work with nursing staff to ensure their review of charts for missing information, etc.*

Will the advent of this new government requirement signal a more intense or different role for the hospital medical staff?

PPS will require hospitals to refocus their staffs to maximize their return under this new payment methodology. Initially, hospitals will concentrate on a better organization of data that will allow for the planning of proper future actions.

The hospital's medical staff roles may change as the hospital strengthens its UR controls and identifies cost containment activities such as a continuing review of standing

(Please turn to page 363)

* Services "incident to" means the service provided by auxiliary personnel must be related to the physician's professional service to the beneficiary. Taken from: Medical Assistant Manual — Medicare section, page 3. Also "incident to" is described in the Coverage Issues Appendix 45-15 of the carrier's manual.

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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

THE SONG OF THE DRG'S

THE DRG'S ARE about to begin. If you have to ask, "What are DRG's?" or "Will they stain my underwear?" then you're clearly in trouble already. And if you're in trouble, you'll soon be singing The Song of the DRG's — and that's blues, baby. But a more cheerful tune is available, if you'll decide to learn it.

DRG stands for "diagnosis related group" and refers to a new mechanism the federal government will use to pay hospital bills for Medicare patients, to phase in starting October 1, 1983. That date means you've only a short while left to absorb how this system will work and what it will likely mean to you, your patients and your hospital.

The financing and administering of hospitals have become a highly complex matter, in case you hadn't noticed. A few physicians understand it fairly well — they're mainly the few who have chosen to become hospital administrators. The rest of us have varying amounts of ignorance about it. (I trust you understand why I say "ignorance" rather than "knowledge" to describe our acquaintance with this topic.)

What penalty will accrue to those who continue to bask in ignorance? Probably the biggest threat is the fiscal collapse of the hospital where you practice. That's because the hospital will no longer receive payment for the computed daily cost times the number of hospital days per patient. Rather, the *diagnosis(es)* will determine a *fixed* fee, no matter what the length of stay for a particular patient, nor what ancillary services might be needed on those days. (Some extreme exceptions will be considered.) If the patient stays in the hospital longer, that will seem to cost the hospital more, yet a fixed fee will be paid. The converse is also true.

You're not dull-witted, dear reader. I can trust you therefore to invent several scenarios in which hospital boards, administrators and physicians will try to play this new game together so as to minimize any fiscal impoverishment. Your scenario-making ability can probably even dramatize for you how a few frightened or unscrupulous administrators or physicians will try to manipulate the system not just for fiscal protection alone but for new fiscal advantage. But the other players in this "game" are smart folks with very serious intentions, and so there will be constraints, monitoring, reports, justifications — activities I predict will produce chafing of, and loud lamentations from, affected physicians and patients. Yet the information to be gained in the system can be used to benefit us all.

"I'm not a fiscal wizard, nor an economic prognosticator, but I've been at my work long enough to foresee an incipient ailment, for which education can be both the preventive and healing agent."

I'm not a fiscal wizard, nor an economic prognosticator, but I've been at my work long enough to foresee an incipient ailment, for which *education* can be both the preventive and the healing agent. The more one knows about the operation of the system, the more comfortable it will be to work within it.

After "hospitals" began to develop in the fifth century A.D. as an aspect of the monastic life style, those Benedictine monks charged with caring for the sick were forbidden to study the craft of medicine in any serious fashion, because St. Benedict felt that healing would flow from divine agency, and/or through the intercession of saints of the Church. Science as we know it began to develop a millennium later, and with it a return to the "naturalistic" spirit of inquiry that characterized the Hippocratic school of ancient Greece. That spirit decreed that it is better to understand how things work, than to keep on

(Please turn to page 363)

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.



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THINGS YOU SHOULD KNOW

COMMISSIONER APPROVES — Insurance Commissioner Foudree approved August 3 the new hospital agreement concept submitted by Blue Cross of Iowa. This action ushers in the new prospective payment approach ordered by the Commissioner. Blue Cross member hospitals are continuing to evaluate the impact this new approach will have on them.

LEGISLATIVE CONFERENCES — Five regional IMS legislative conferences will occur in late September and October. Measures expected to come before the 1984 Iowa General Assembly will be examined. The meetings will be open to any interested physician. A principal effort will be made to encourage attendance by Legislative Contact Physicians (LCPs). Conference sites are Denison, Mason City, Manchester, Davenport and Des Moines. Dates and other info will be in the September IMS UPDATE.

THESE ARE OUR BELIEFS — Copies of this 1983 Statement of Principles from Iowa Medicine have been sent to presidents and secretaries of county medical societies with encouragement that they be discussed in the coming months. The principles, approved by the 1983 IMS House of Delegates, were included as a special supplement in the August issue of the IMS JOURNAL.

RISK MANAGEMENT SEMINARS — How Iowa physicians can avoid malpractice exposure will be the center-stage topic November 2 and 3 at identical day-long risk management seminars in Cedar Rapids and Des Moines, respectively. Former AMA President Ed Annis, M.D., who has developed special expertise in this area, will be a principal speaker. The seminars are open to any interested IMS member. They are a project of the IMS/Aetna Liability Insurance Program. Programs will be sent to all members.

OUTPATIENT SURGERY FOLDER — To be distributed with the September IMS UPDATE is a new folder from the Health Policy Corporation of Iowa which discusses outpatient surgery in lay terms. The document has had considerable physician input and identifies the IMS as an endorsing agency. The folder draws upon the Iowa Foundation for Medical Care list of procedures appropriate for outpatient performance.

1983-84 IMS MEMBER DIRECTORY — The new directory of IMS member physicians will be ready for distribution in the next several weeks. It will contain several new informational items, including, for the first time, entry of a subspecialty where this has been specified.

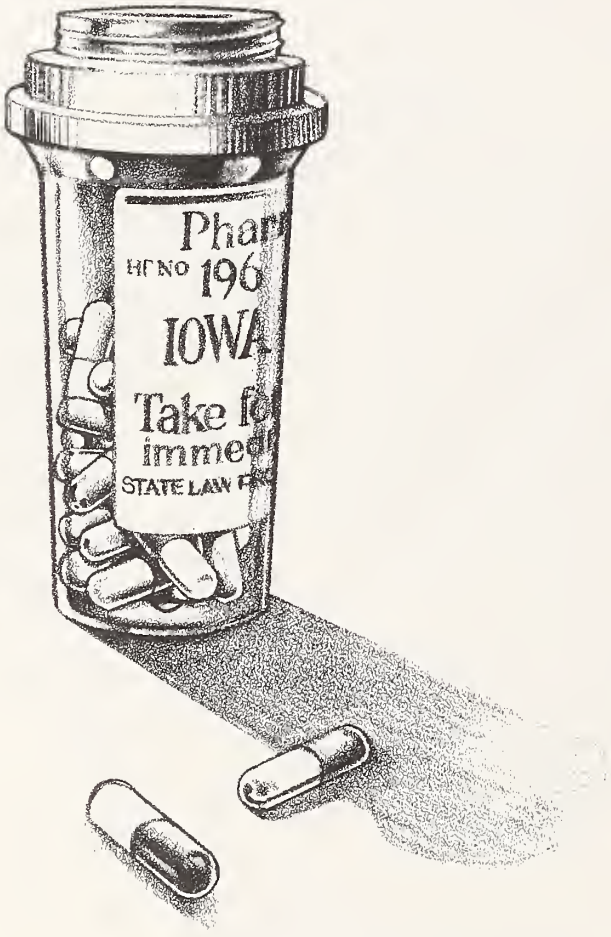
NEW IMS CME UPDATE — A new IMS UPDATE intended to provide continuing medical education information has been developed. The first issue was sent in August to CME directors and others interested in CME projects and activities. Any IMS member interested in receiving future issues is invited to contact Society headquarters.

SCHOOL HEALTH EDUCATION — The first of 4 Governor's Conferences on Comprehensive School Health Education will be October 5 at Drake University. The others will be October 25 (Sioux City), November 4 (Cedar Falls) and November 9 (Bettendorf). Lead sponsors of the project are the IMS and the IMS Auxiliary. Increased awareness of school health education is the goal.

ILLINOIS CME CONGRESS — This annual program for those involved in presenting continuing medical education will be October 14/15. It will be at the Drake Oakbrook Hotel in Oakbrook, Illinois. More info is available from IMS headquarters.

MS-AFP SCREENING — A proposal to create a statewide program to do maternal serum alphafetoprotein screening to detect neural tube defects is being considered by the State Birth Defects Institute. Aspects of the proposal include provision for a central AFP lab; standards for AFP screening, and assurance the program will be self-supporting and voluntary for patients.

House File 196: A cure-all for Iowa's ailing health care system?



Blue Cross and Blue Shield of Iowa have long been at the forefront in solving Iowa's health care system dilemma.

And, we shall continue to develop and advocate the responsive and cooperative implementation of programs to better serve the needs of both the recipients and providers of health care.

Many people do believe Iowa's health care system has been ill. It *is* true that utilization has outstripped national averages and costs have soared. As a result, Iowa's legislators have now become involved by writing a "prescription" to help effect a cure — the omnibus health care bill, House File 196.

Part of this new act calls for a change in the make-up of the Boards of Directors of Blue Cross and Blue Shield of Iowa. An interim legislative committee recommended a simple majority of subscribers. The general assembly, however, mandated a two-thirds subscriber majority, plus some very specific nominating provisos.

(Iowa physicians will be able to nominate by petition subscribers who sit on our Boards, and will continue to nominate and elect their peers who will comprise the remaining one-third of our Boards.)

House File 196 is strong medicine. And although we believe portions of the law can help effect a cure in Iowa, it is not a cure-all.

Of course, we shall comply.

We shall also strive to maintain our positive and progressive relationships with Iowa's physicians, and to achieve our common goal — that of providing quality health care at affordable cost for all Iowans.

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New Reimbursement Environment to Challenge Iowa Hospitals

ROBERT L. LUDKE, Ph.D.,
JOHN M. KUDER, Ph.D., and
SAMUEL LEVEY, Ph.D.
Iowa City, Iowa

This review of the impending DRG era has its sobering implications. Survival, it says, will depend not only on a commitment to control costs, but also on a similar willingness by the medical staff to examine and, if necessary, modify its use of services.

THE COST OF HOSPITAL CARE in Iowa and the nation has increased substantially over the past two decades.[1-2] This fact is well-known to those who provide the care. We have seen the interest of the public intensify steadily.

Attempts at controlling mounting inpatient cost have been relatively unsuccessful in Iowa and the nation. So it is not surprising that we are confronting a new era in hospital reimbursement. And the provider community needs to understand what looms ahead.

This will be the era of Prospective Payment Systems (PPS). The application of PPS will be to the main sources of inpatient hospital payment. Involved are the primary third-party mechanisms — Blue Cross, Medicare and Medicaid. The traditional retrospective reimbursement approach will become obsolete.

The new systems pay hospitals at a predetermined amount or rate. This rate will be in effect during the entire service period with no retroactive adjustments for excess costs. Where the hospital cost is less than the predetermined rate, the facility may be able to keep all or part of the difference. However, where costs surpass the predetermined amount the hospital must absorb the loss.

This all means the hospital will be at greater financial risk than at any recent previous period. The emergence of PPS stems from a belief among legislators, payors, regulators and consumers that cost-based, retrospective, inpatient reimbursement is the prime reason for health care inflation. Critics of the existing cost-plus concept refer to the minimal risk which has been faced by hospitals and to the absence of any cost incentives.

Following are comments about the new Medicare and Blue Cross systems, both of which go into effect shortly, and the Medicaid PPS now operating in Iowa.

MEDICARE PAYMENT SYSTEM

MEDICARE HOSPITAL expenditures have increased 19% annually over the last three years.[3] Based on this and other statistical findings there is every indication the Medicare Hospital Insurance Trust Fund will become insolvent by the early 1990's.[4] Consequently, the

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federal government is responding to this looming fiscal crisis. Two major changes in the Medicare Part A reimbursement system have been set in motion.

The first change emerged from the Tax Equity and Fiscal Responsibility Act (TEFRA). It became law September 3, 1982. Section 101 of TEFRA established an interim program to control hospital expenditures until a prospective payment system could go into effect. Under TEFRA, the federal Health Care Financing Administration is imposing total cost per case limitations on payment for inpatient services provided to Medicare patients, with adjustments for the case mix of each hospital as derived from diagnostic related groups (DRGs).[5]

The TEFRA regulations, which currently apply to almost all Iowa hospitals, will be replaced at the start of each hospital's next fiscal year after September 30, 1983, by a new case-based prospective payment system. This is the second major modification in Medicare hospital payment policies.

The newer Medicare PPS became law April 20 as part of the Social Security Amendments of 1983. This system will have a further and significant affect on payments to hospitals for services provided Medicare patients. See Table I for a summary of the key features.

Under the new Medicare PPS Iowa hospitals will have an incentive to maximize the differences between revenues and costs. Revenues will be derived from the number of Medicare patients a hospital admits in each diagnostic related group (DRG) multiplied by a predetermined rate for that DRG. There are 467 DRGs to identify patients with similar clinical characteristics.

By contrast, hospital costs will continue to be a function of the numbers, types and costs of services provided to patients in each DRG. So, as Medicare establishes payment rates for the DRGs, hospital administration will need to scrutinize and control the costs associated with each service provided; physicians will maintain control over the number and types of patients admitted, as well as the number and types of services provided each patient. It is here that stepped-up consultation between medical staff and administration will be essential.

Because hospitals will not control the Medicare payment rate, one way to offset any negative revenue-cost difference will be to admit more patients, especially those with DRG payment rates typically greater than the corresponding treatment costs. Another approach will be to try to reduce the number and type of services provided to patients within each DRG. A third method will be to lower the costs

TABLE I

MEDICARE HOSPITAL PROSPECTIVE PAYMENT SYSTEM
PROGRAM HIGHLIGHTS

- Haspitals are ta be paid a praspectively determined amaunt for eoch Medicare discharge. These are classified inta 467 Diagnastic Related Graups (DRGs).
- Separate payment rates will apply ta urbon and rural areas in eoch af 9 census divisians.
- The DRG payment system will be phased-in aver a 3-year periad.
- DRG rates will be adjusted far area wage levels using Bureau af Labar Statistics data.
- All inpatient services are covered. Only nonphysician services pravided in an inpatient setting paid under Part A.
- Hospitals must pravide annual cast reparts at least 2 years after full implementatian af the system.
- Initial DRG rates are based an historical cast data. They will be updated annually thraugh FY85 using the marketbasket af goads and services plus ane percent far new technalagy. Hawever, ceilings an DRG rates moy be impased.
- In FY86, DHHS may increase the rates by any amaunt. A cammissian camposed af 15 private sectar representatives, including hospitals, physicians and cansumers, will furnish guidance.
- DRG classifications will be recalibroted in FY86 and at least once every 4 years thereafter; again in consultation with the new cammissian.
- Additianal payments are mode far atypical cases where the length af stay exceeds the mean length af stay. Additianol payments far these outlier cases will amaunt to nat less than 5% and nat mare than 6% af total praiected DRG related payments.
- Capital expenses will be excluded initially from DRG rates and be paid as a pass-thraugh. In 1986, if nat befare, capital expenses will be included.
- Medicare Section 1122 pragrom with threshalds set at $600,000 far capitol expenditures is mandatory an October 1, 1986. HMOs are exempt.
- Direct medical educatian expenses are excluded fram DRG rates. Indirect medical educatian casts are affset thraugh on adjustment in the DRG rates.
- Psychiatric haspitals and units af hospitals, rehabilitatian haspitals and units af haspitals, long-term care haspitals, and children's haspitols excluded.
- Sale cammunity praviders are included but given special cansideration.
- Exceptions and adjustments ore made far public haspitals ar ather haspitals that serve a disprapartianately large number af law-incame or Part A Medicare beneficiaries as well as regianal and natianal referrol centers, including large acute haspitals in rural areas.
- Every hospital is required ta contract with a prafessianal review organizatian (PRO), which may be a fiscal intermediary, befare October 1, 1984. A separate system for manitaring admissians and discharges and penalizing praviders far excessive practices must be established.
- HMOs and other competitive medical plans that receive Medicare payment an o risk basis can elect ta have haspitals paid directly at the DRG rate for inpatient haspital services.
- States are encauroged ta develap their awn cast cantral systems that would encampass private payars as well as Medicare.

associated with the provision of specific services.

It is clear that to remain financially viable, Iowa hospitals must either (1) treat Medicare patients at or below established payment rates; (2) subsidize the treatment of Title XVIII patients from other revenue sources, or (3) not care for high cost-low revenue Medicare patients. Any hospital with a high Medicare patient population will have substantial incentive to watch costs most carefully. In this connection, hospitals will have a financial stimulus to review the use made of their services and resources by members of the medical staff. This will involve monitoring the volume of services and the lengths of stay; moreover, it could cause hospitals to examine their diagnostic mix of patient admissions. Treating more patients in profitable DRGs may improve the cash flow of hospitals; conversely, transferring patients in less profitable DRGs may be encouraged.

BLUE CROSS PAYMENT SYSTEM

On July 27, 1982, the Iowa Insurance Commissioner ordered Blue Cross of Iowa and Blue Cross of Western Iowa and South Dakota to develop a new prospective payment system for hospitals. The inadequacy of existing reimbursement formulae with rising health care costs was given as the reason.

Under the long-standing retrospective system Iowa hospitals have been reimbursed the lower of actual patient charges or 105% of reasonable costs. Since hospitals have not shared in any savings when costs have fallen below this level, there has been little incentive to reduce costs.

On July 30, 1983, the Blue Cross Plans submitted the final outline of their proposed hospital payment system to the Commissioner. Table II summarizes the key features of this system. The Commissioner approved the new system which becomes effective as Iowa hospitals renew their Blue Cross contracts on or after October 1, 1983. The new system is designed to move gradually into a DRG-based approach similar to Medicare. Initially, however, it is not based on patient diagnoses.

The stimuli of the cost-plus system will be replaced by modest incentives to hospitals; now they will have some inducement to restrict cost increases to the projected inflation factor plus an additional percentage point. While there are incentives to keep costs under this level, generally they are weak and may prompt little effort to keep costs significantly below the projected inflation rate. The overall incentive is aimed at improvement of hospital cost control systems through careful monitoring of financial operations and the utilization of hospital resources.

In some cases, hospitals may budget in excess of minimum requirements in quest of

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TABLE II

BLUE CROSS HOSPITAL PAYMENT SYSTEM
PROGRAM HIGHLIGHTS

- System will start with the hospital fiscal year on or after October 1, 1983.
- Hospitals under 100 beds (small hospitals) may accept an established reimbursement level or undergo budget review. The first option will use the previous year's historical cost plus an inflation index adjustment including 1% for increased intensity of service. There will be incentives for high productivity and disincentives for low occupancy.
- Larger hospitals (100 beds or more) and small hospitals electing budget review are required to submit a prospective budget to Blue Cross. Budgeted per diem costs will be compared with a max screen to determine acceptability. The max screen is based on each hospital's previous year's allowed costs and an index of anticipated inflation, plus a 1% intensity allowance. The allowed per diem will also be subject to financial incentives to improve productivity and hospital occupancy rates. If the per diem cost in the submitted budget is below the max screen, no further review is necessary. If the max screen is exceeded, the budget is reviewed, whereupon the hospital must either reach a negotiated agreement with Blue Cross or appeal their case to a review committee appointed by the Blue Cross Board.
- Hospital depreciation expenses are not allowed costs. However, eligible hospitals may incorporate certain capital allowances into their budgeted per diem costs. These allowances may be made for current and future facility replacements, equipment replacement and debt amortization.
- Hospitals will be subject to low occupancy penalties. If a small hospital has an occupancy rate less than 55% in the current year and two previous years, the allowed rate of increase in per diem costs is reduced by 1%. Large hospitals with occupancy rates below 65% in the current and two preceding years will not receive a facility replacement capital allowance.
- Hospital payment from Blue Cross will have certain limitations based on changes in the number of patient days. If in a year the number of patient days increases by more than 2%, the hospitals will be reimbursed at a rate 60% of the per diem rate less capital costs for days in excess of the 2% growth level. Likewise, if a reduction in patient days per year should be more than 4% below the previous year, the hospital's budgeted cost is decreased by 60% of the per diem rate, less capital costs, times the number of patient days in excess of the 4% parameter.
- Hospital per diem costs will also be compared with the costs of other peer hospitals and a productivity incentive applied. For this comparison, hospitals are divided into 7 peer groupings based on bed size, urban-rural location and teaching status. Those hospitals with costs in the lowest third of their peer group will have their payment rates for operating costs increased by 1% as an incentive for high productivity.
- All hospitals are required to participate in Blue Cross utilization review.

TABLE III

MEDICAID HOSPITAL PROSPECTIVE PAYMENT SYSTEM
PROGRAM HIGHLIGHTS

- System implemented for hospital reporting periods on or after October 1, 1982.
- Only inpatient services provided by Iowa hospitals are covered. Mental hospitals, out-of-state hospitals and outpatient care will be reimbursed following Medicare reimbursement principles.
- Individual hospital specific rates are based on each hospital's own cost experience in treating Medicaid patients during fiscal year 1981 and on the hospital marketbasket price index.
- Hospitals are required to continue filing annual cost reports. Patient logs must be maintained.
- New rates for outpatient services were developed and will be reviewed every 6 months.

higher payment rates via the negotiation process. This is not without risk, however, because Blue Cross may identify excess costs and extract discounts during the audit and review process.

Iowa hospitals faced by low occupancy will be challenged to either increase patient days or reduce bed capacity. Any effort to boost patient days may be a mixed blessing since increases of less than 2% will not effect reimbursement levels and increases greater than that are paid for at only 60% of the established per diem rate.

The new Blue Cross plan provides an important incentive for hospitals to improve the management of funds for capital expansion. Under the new structure, payment for capital allowances must be budgeted with such capital funds earmarked only to amortize debt or to finance facility and equipment replacements. This will force hospitals to devote greater efforts to planning for capital formation.

In general, this new Blue Cross payment system may not seriously restrict hospitals but it does remove the incentives which have existed. However, some hospitals, particularly those with excess capacity and with already high costs and an inability to control them, may be forced into an uncertain financial future.

MEDICAID PAYMENT SYSTEM

IOWA MEDICAID had a 58% jump in hospital-based expenditures between 1979 and 1981.[6] This occurred despite only a 4.5% increase in eligible recipients. Total hospital per diem expenses went up 34%.

This fiscal escalation was accompanied by a reduction in federal Medicaid funding. Consequently, the Iowa General Assembly passed legislation in 1982 calling for a hospital prospective payment system for Medicaid patients. Previously Medicaid reimbursed hospitals on a per diem basis for costs actually incurred. This obviously created little incentive for cost effectiveness.

To comply with the legislative directive, a prospective Medicaid reimbursement system was instituted October 1, 1982. It is based on a model developed in Missouri. Table III presents key features of the system. The incentive to hospitals is to maximize differences between what they are paid for caring for Medicaid patients and the per diem costs they actually incur in treating those patients. Because the cost per patient day for fiscal 1981 is used as the base and the inflation allowance is linked to national marketbasket prices, rate of payment is essentially not controllable. Therefore, if hospitals are to reduce actual per diem costs, they must either (1) reduce the costs associated with treating Medicaid patients by reducing operating costs, admitting fewer Medicaid patients, or providing Medicaid patients with fewer services; (2) increase the number of Medicaid patient days primarily through extending lengths of stay, or (3) both. Because an intensity factor is not provided, the longer term incentive may be to furnish Medicaid patients with fewer high cost services.

EFFECTS OF THE PROSPECTIVE SYSTEMS

THE INCENTIVE STRUCTURES underlying these Iowa prospective payment systems will generate a number of effects. First, the growth in total hospital expenditures should begin to slow. The extent of the slowdown will depend largely on actions taken by hospitals and medical staffs to curtail both per unit costs and utilization. However, the three payors may not have equal impact. Incentives associated with the Medicare prospective payment system appear likely to have the greatest effect.

Secondly, hospitals can be expected to reduce costs associated with the provision of services. This may result from tighter management policies, re-evaluation of staffing practices, improved purchasing and inventory management, shared services, or other innovative strategies.

New services or major equipment purchases will have to be assessed carefully as to revenue levels and cost outlays. Many hospitals may find it unwise to invest in new technologies, especially if they are available nearby. Thus, there may be a decrease in duplication of services and unnecessary use of high cost technology. This could inhibit the growth of new technology over time.

Thirdly, utilization patterns are expected to change as hospitals attempt to operate more efficiently. The direction is hard to predict because different incentives underlie the three systems. The Medicare incentives are to reduce intensity of care, shorten lengths of stay, use fewer ancillary services, increase or decrease admissions depending on DRG profitability, and increase patient transfers where appropriate. The Medicaid inducements are to increase length of stay and decrease use of ancillary services while increasing length of stay and use of ancillary services for non-Medicaid patients. The Blue Cross incentives are to maintain admissions within designated volume limits while controlling intensity of care and use of ancillary services.

A fourth concern is over the impact on quality of care. This will need careful analysis by both external monitoring systems and internal hospital evaluation. The potential for conflict arises when quality is factored against a reduced intensity of services, diminished ancillary activity and shortened lengths of stay.

The growth of alternate health care delivery systems is expected as the search continues for economical options to inpatient care. The surgicenter and the emergicenter are examples of this trend.

Finally, various other strategies will emerge to maximize reimbursement. The inclination toward cost shifting (among payors or to outpatient areas) will be present as hospitals adjust to the three payment systems. The further prospect of inflating budgets to achieve better negotiated rates will exist, as well as the tendency to engage in "DRG creep" (assigning cases to higher than warranted DRGs).

CONCLUSIONS

HOSPITALS have been protected largely from previous threats to their economic sur-

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vival. Now, with new payment schemes, particularly the DRG-based Medicare system, hospitals will determine policies and make operating decisions to assure financial viability. Viability will depend on more businesslike management. It will no longer be feasible to make operating decisions after only a cursory review of the financial consequences. Improved cost data gathering methods will be essential.

Cost accounting procedures, medical records processing and management information systems will need to be as innovative as possible. Even full scale sophistication of these activities may not be sufficient. New strategies for containing costs, the development of new organizational forms such as urgent care centers, and the increased use of planning and marketing skills are likely to distinguish hospitals that are flourishing from those that are failing. With the assistance and cooperation of their medical staffs, those hospitals able to monitor and control the use of their resources will suffer least under the new guidelines.

Good understanding and strong support from boards of trustees and medical staffs will help hospitals readily adjust to the changing reimbursement environment. Unless physicians assume greater leadership roles in strategic and operational planning, the threat to survival of the hospital and quality of medical care is real.

Implementation of improved operating and information systems will require new commitments from physicians and other health professionals. Various Iowa hospitals have begun educational programs to increase cost awareness among patients, employees and medical staff members.

The DRG era will challenge physicians. Today's cost-conscious milieu will have an impact on practice patterns. Each PPS has certain incentives aimed directly at hospital utilization. Thus, survival of a hospital may not only require a commitment to controlling costs, but a similar willingness by the medical staff to examine and modify its use of the services.

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Assumptions and Implications For Medical Staffs

The following comments are part of a 27-page document issued recently by the Iowa Hospital Association. The document is entitled "1983 Environmental Assessment." The excerpt presented here appears under the heading, "Hospital Organization," and is reprinted with permission of the IHA. The ideas expressed are timely, provocative and already in a state of implementation in various Iowa communities.

WHILE PHYSICIAN NUMBERS will continue to increase, we may find that this increase will remain in the specialty area. Those that are practicing family medicine, even though they may locate in rural areas, will be practicing in a style that does not utilize as heavily the acute inpatient area of the hospital. This type of practice will create a decrease in utilization of inpatient capability and place a great deal of additional pressure on the use of outpatient diagnostic equipment and testing capability. With this change in medical staff practice, hospitals must be prepared to reduce dependence on the acute inpatient dollar and develop alternative methods of financing the primary operation.

With recent changes in state law, hospitals may find that physicians on staff will be willing to experiment with other payment alternatives in addition to the traditional contract or fee-for-service payment. Hospital management will need to develop programs that will not only increase physician cost consciousness, but modify physician practice patterns.

Joint decision making involving medical staffs with governing board and administration will need to be developed to gain physician participation in and acceptance of changes in institutional procedures. Physicians should be encouraged to assume a stronger leadership role in working with hospitals to develop the appropriate level of facilities and services for each community.

The traditional relationship between the physician and the hospital is changing, primarily due to: increases in physician supply, spurring increased competition among physicians and causing more physicians to seek hospital staff appointment; changes in physician lifestyle, which parallel lifestyle changes in society and are creating changes in practice patterns and expectation; increases in the number of physicians who are joining groups competitive with hospital services, such as ambulatory surgery; and pressure on the hospital by payers to use the hospital as a mechanism for controlling of the physician.

These assumptions imply that hospitals should create and use a development program that recognizes physicians as hospital decision makers as well as service consumers. The development program should be designed to provide physicians with information regarding external and internal issues, such as: the influence of medical decisions and judgments on the hospital cost structure; and changing practice patterns and their relationship to quality of care. Such information will enable physicians to collaborate more effectively with management and the governing board.

Some Reminiscing

Recollections of more than 40 Iowa physicians have been taped and preserved by the IMS Historical Committee. This significant effort to record the progression of medical history in Iowa has produced some interesting personal observations. Following are excerpts from interviews conducted by John Martin, M.D., a member of the Historical Committee from Clarinda.

"As for a major development which is detrimental to the practice of medicine, it seems to me the paperwork involved with insurance settlements and the federal health programs is a very tedious, costly thing. Frequently, it is not possible to recover the expense of doing that paperwork. I saw one patient for a year and got back $0.63 from Medicare, which didn't begin to pay for the paperwork. I don't think this benefits the patient. There has also been a push toward more standardization, making more staff conferences necessary, so the staff ends up treating each other, or the chart, instead of the patient." — Karl Catlin, M.D., Atlantic

On what motivated him to study medicine: "When I was growing up here in . . ., one of the good friends of the family was Doctor S. I admired Dr. S. as most young people do their idols. He was a very stately person with a white mustache. He always drove a nice Buick car and wore white gloves when he drove. Very often he had a driver. This impressed me very much. Dr. S. was a very kindly man and good doctor and a good friend. I am sure that his presence in our home and my being in his home did influence me to become a physician." — Kenneth Gee, M.D., Shenandoah

On being asked why he went into medicine: "That is really difficult to answer. But ever since I was a small child I had been a good friend of a physician in our home town. I always wanted to be like him. Maybe it was because he had a beautiful Van Dyck beard and lived in the biggest house in town." — Thomas Shonka, M.D., Red Oak

"I feel that a physician, and also a minister and a teacher, need to be an example to other people in the community. Whom are the young people going to look up to and respect if not the ones who are the most intimately involved with them, other than their parents? And that is the physician, the minister, and the teacher. I feel strongly that, as a physician, I have a responsibility to take an active part in the overall life of my community, and I have enjoyed the benefits of having been able to do so." — Willard Kuehn, M.D., Clarinda

On being asked to compare undergraduate education now and then: "I think I came out of college with what I consider a good general education, in some respects a better education than many students now get. I could write an English sentence; I could read poetry and history with understanding and enjoyment. I have a feeling that I had a more rounded education, and a better appreciation of the humanities than many medical students and graduates do nowadays. Many basics are now neglected. I think, for instance, it is foolish to teach abnormal psychology to high school students. They should be learning the three R's. I think it is a great mistake that our high school and college students don't study both Latin and at least one modern foreign language." — John Martin, M.D., Clarinda

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> *Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

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Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

ROCHE®

Acute Dorsal Fracture-Dislocation Of the Proximal Interphalangeal Joint

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Early recognition of the acute dorsal fracture-dislocation involving the proximal interphalangeal joint of the finger is vital in restoring function. Unfortunately, the diagnosis is frequently missed. Delayed treatment produces stiffness, pain and early degenerative joint disease. Various acute treatment methods are reviewed here. Important principles are early diagnosis, the achievement of a stable, congruent reduction, and the initiation of early active motion.

THE PROXIMAL INTERPHALANGEAL (PIP) joint is the most common site of ligamentous injury in the hand.[1, 2] Typically, this joint is suddenly hyperextended during participation in a sporting event. The injury is frequently dismissed by the patient and coaching staff as trivial, but a dorsal fracture-dislocation of the PIP joint may have occurred. Patients who consult a physician are sometimes misdiagnosed or undertreated. Weeks to months later, with the diagnosis now more apparent, the patient returns complaining of pain, stiffness and instability of the PIP joint. Unfortunately, a treatment delay often results in significant functional impairment.

This paper will review acute dorsal fracture-dislocations involving the PIP joint of the finger. A discussion of the classification, diagnosis and principles of treatment is provided. Various treatment alternatives and the adverse sequelae of delayed treatment are offered.

CLASSIFICATION

Acute dorsal PIP dislocations are subdivided into 3 categories by Eaton.[1] His classification clarifies our understanding of these injuries and provides a useful plan for treatment as well. The categories include Type I (hyperextension), Type II (dorsal dislocation) and Type III injuries (fracture-dislocation). The Type I lesion represents a minor tear in the collateral ligaments and the palmar aspect of the joint capsule (the volar plate). The finger may be locked in as much as 70-80° of hyperextension, but articular contact remains between the middle and proximal phalanges. A major ligamentous disruption characterizes the Type II dorsal dislocation. This results in a parallel alignment of both phalanges, one on top of the other, in "bayonet fashion" without articular contact. Type III fracture-dislocations occur when the base of the middle phalanx is fractured.

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THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF SEPTEMBER 1983



Figure 1. Lateral radiograph demonstrating a dorsal fracture-dislocation of the PIP joint of the long finger (second digit from the left). Overlapping digits make diagnosis difficult. The importance of a lateral radiograph of only the involved finger is emphasized.



Figure 2. Lateral radiograph of the left long finger, two months postoperatively. Minimal dorsal subluxation is present with good alignment. Medial joint space is narrowed but the lateral joint space is well preserved.

These injuries can be further subdivided into two types: stable and unstable. If only a small portion of the middle phalanx is fractured and enough of the collateral ligaments and volar plate remain attached to the middle phalanx, the PIP joint is stable. The treatment for Type I, II and III (stable) injuries is generally agreed upon and consists of immobilization in 20-30° of flexion for 2 to 3 weeks.[1] These injuries will not be discussed further. If a larger fracture occurs and the stabilizing ligaments remain attached to the fracture fragment, the remaining middle phalanx dislocates dorsally. The finger may be reduced, but without its ligamentous support the PIP joint is unstable and redislocation occurs.

TREATMENT ALTERNATIVES

The unstable Type III fracture-dislocation is difficult to treat and consequently several treatment alternatives have been described. They include external fixation devices,[3, 4] immobilization in fixed flexion,[6, 7] volar plate arthroplasty,[8] open reduction and internal fixation,[9, 10, 11] closed reduction with extension block splinting[5] and various tenodesis[12, 13] and arthroplasties.[14, 15] Unfortunately, definite conclusions are difficult to reach when reviewing this topic. Some studies have few patients, and only short term follow-up. A few base their conclusions solely on impressions without objective documentation. Some techniques are impractical for the average surgeon. In those studies with adequate numbers and follow-up, different parameters are reported, making comparisons difficult. Table I summarizes these findings.

TABLE I

SUMMARY OF TREATMENT ALTERNATIVES FOR ACUTE* FRACTURE-DISLOCATIONS INVOLVING THE PROXIMAL INTERPHALANGEAL JOINT OF THE FINGER

Study	Number	Average Interval Between Injury and Treatment	Average ROM After Treatment	Average Follow-up
Extension Block Splinting (McIfresh et al.[5])	16	Immediate	91.5°	5 months
Closed Reduction† (Lee[16])	8	Immediate	3 out of 8 had full range of motion	6 Years
Volar Plate Arthroplasty (Eaton, Malerich[8])	7	5 Days	95°	38 Months
External Fixation (Robertson et al.[4])	5	2 Days	78°	5 Weeks
Open Reduction Internal Fixation (Wilson, Rowland[9])	2	8.5 Days	Before Treatment: 15° After Treatment: 90°	4 Months

* We are defining acute as the interval between injury and treatment as 10 days.

† One patient from this study had a volar dislocation.

DIAGNOSIS

Most essential to a favorable long term prognosis is an early, accurate diagnosis and adherence to basic treatment principles. A history of a hyperextension injury or dislocation suggests the unstable Type III injury. PA and lateral radiographs provide diagnostic information and must be obtained. Post-reduction active and passive stress testing under local anesthesia differentiates between stable and unstable Type III injuries.[1, 5] Full joint motion without redislocation indicates a stable joint, despite the bone and ligament injury.

CASE REPORTS

Case 1. L.S., a 16 year old right hand dominant female, sustained multiple pelvic fractures in a motorcycle accident. On admission she had pain and swelling of the PIP joint of the left long finger. PA and lateral radiographs demonstrated a dorsal fracture-dislocation. See Figure 1. Because of her serious condition, volar plate arthroplasty was delayed 12 days. Postoperatively the middle phalanx of the left long finger was ulnarly deviated about 15°. This was secondary to collapse of the cartilaginous articular surface of the medial condyle of the proximal phalanx. Active range of motion exercises were implemented 3 weeks after surgery, using extension block splinting.

Initial follow-up examination revealed an active range of motion from 30° to 60° of flexion. However, the patient admitted to only occasionally wearing her splint and participating in active range of motion exercises. After careful instruction and encouragement the patient made significant progress. One year after surgery she was without pain or instability and had good grip strength. The previously injured PIP joint demonstrated a pain free range of active motion from 0° to 75° of flexion. See Figure 2.

Case 2. L.B., a 27 year old right hand dominant male, injured the PIP joint of his right ring finger. Radiographs the following day revealed a fracture at the base of the middle phalanx, and the injury was treated with splinting. Because of persistent pain and stiffness 4 months after injury the patient was reevaluated. A chronic dorsal fracture-dislocation of the PIP was diagnosed. The patient was referred to a hand surgeon for treatment. Physical examination at this time demonstrated fusiform swelling at the PIP joint of the right ring finger. Palpable synovitis was present. The active range of motion was 20-60° of flexion with considerable pain experienced at the extremes of motion. AP and lateral radiographs showed a dorsal fracture-dislocation with a large, noncomminuted volar fracture fragment healed in poor position. See Figure 3.

The patient underwent a corrective osteotomy of the middle phalanx with bone grafting from his radius. Active range of mo-



Figure 3. Lateral radiograph of the right ring finger, five months after injury. Note malunited volar fracture fragment with dorsal dislocation of the remaining middle phalanx. The narrowed joint space is incongruent.

tion exercises were initiated 6 weeks postoperatively. Three months after surgery the patient was improved, but complained of morning stiffness and had mild pain on extreme flexion and extension. Physical exam revealed an active range of motion of 24°-74° of flexion. Radiographs demonstrated union at the osteotomy site with persistent mild irregularity of the articular surface.

TREATMENT PRINCIPLES

Treatment of the unstable Type III fracture dislocation of the PIP joint requires adherence to a few principles. The first is a stable, congruent reduction. Incongruity between joint surfaces increases the likelihood of instability and early degenerative joint disease with its associated pain and stiffness. Many authors have stressed this point. Wilson and Rowland noted that " . . . early, accurate reduction is essential, however it is achieved" and stated further that "Maximum restoration of joint motion can best be achieved by anatomical restoration of joint contour and alignment."[9] Post-reduction roentgenograms will aid in the assessment of joint congruency and should be compared with the prereduction films. On occasion, a congruent reduction is not possible. This may be due to a badly rotated or malaligned fragment or to a severely comminuted articular surface. In this instance, referral to a hand surgeon is suggested.

The second principle advocated by many[1-3, 9, 13, 17-19] is implementation of early active motion after a brief period of immobilization. The length of immobilization can be variable, depending on the amount of soft tissue swelling, but generally lasts between 10-21 days. Prolonged immobilization should be avoided beyond this recommended time period else flexion and extension contractures will occur. Intra-articular adhesions also form during this period of immobilization. Sprague points out that gentle, early active motion stretches and lyzes some adhesions thereby selectively organizing them along tissue planes.[2] Consequently, range of motion steadily increases. Passive motion exercises, in contrast, are felt to promote excessive tissue breakdown which leads to more bleeding, edema and inflammation and therefore are not recommended for early PIP joint rehabilitation.

The patient should be cautioned about reinjuring the joint. Necessary precautions (e.g. taping to adjacent finger) are recommended for all athletic activities. The rehabilitation period for unstable Type III fracture-dislocations involving the PIP joint is lengthy, frequently lasting over a year's time.[2] The patient's expectations should be modified accordingly. Return to a pain free range of functional motion can be expected if the above treatment principles are followed.

Patients who present late, are misdiagnosed, or are improperly treated (incongruent, unstable reduction and/or prolonged immobilization) can expect less desirable results. Malunion and joint incongruency results in premature degenerative joint disease characterized by stiffness, pain and loss of motion. Grip strength is decreased. Recurrent subluxations and dislocations are annoying and bothersome. Common reconstructive procedures for these patients are arthrodesis (surgi-

In vitro studies demonstrate

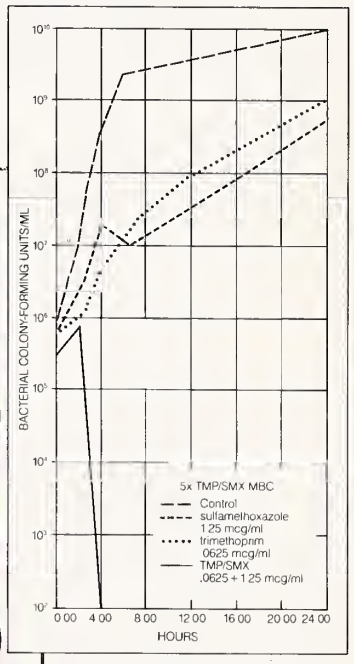
Bactericidal activity with minimal resistance

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials

	Escherichia coli	*Klebsiella pneumoniae*	*Proteus mirabilis*	*Proteus vulgaris*	*Proteus sp.*	*Enterobacter sp.*	*Enterobacter aerogenes*	*Enterobacter cloacae*
BACTRIM	96% 328,598	89% 63,551	93% 62,691	84% 4174	91% 4381	88% 1736	96% 7326	92% 11,856
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofurantoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI**



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro*.[1]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.* Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

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Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. *Pregnancy:* Teratogenic Effects: Pregnancy Category *C*. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

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1. Stone PH, Turi ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104:672-681, September 1982.
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980.

BRIEF SUMMARY

PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INOICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

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Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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cal fusion of the joint),[5] volar plate arthroplasty,[8] and osteotomy of the middle phalanx. These reconstructive procedures are avoidable if the initial diagnosis and treatment of the PIP joint fracture-dislocation is appropriate.

SUMMARY

The need for early recognition of the acute dorsal fracture-dislocation of the PIP joint of the finger is emphasized. The tendency to underestimate injury, and to misdiagnose and treat this injury with subsequent adverse side effects and impaired function have been well documented.[2, 9, 10, 18, 19] Numerous treatment alternatives have been described for the unstable Type III dorsal fracture-dislocation. Most important is: 1) establishing an early, accurate diagnosis, 2) maintaining a stable, congruent reduction and 3) initiating early, active motion. Satisfaction of these treatment principles will insure a more favorable result for the patient.

REFERENCES

The references noted in this paper are available on request either from the authors or the JOURNAL OF THE IOWA MEDICAL SOCIETY.

QUESTIONS/ANSWERS

(Continued from page 343)

orders. To provide staff training, the medical staff should participate in these planning sessions. A "DRG task force" may be formed with members of the administrative staff and medical staff to develop these activities fully.

Do you have any words of advice on how hospital administration and medical staff can work together to accomplish what is being asked by the government?

Through a combined effort of the hospital administration and medical staff, the planning and implementation of appropriate activities can effectively take place. A joint planning group or "DRG task force" should be considered with the objective of achieving specified goals.

Goals such as shorter hospital stays, greater utilization of the outpatient facilities, reduction of unnecessary standing orders, additional staff training on the coding impact on DRGs, and strengthening of UR controls will all contribute toward meeting the federal government's long range objectives and will help make PPS work for each hospital.

The bottom line, in terms of physician interest, is quality of care. What's your opinion of DRG as it applies to the retention and strengthening of quality?

PPS does require physicians to balance carefully the need to assure high quality care with the use of resources needed to meet this commitment. To ensure the quality of care to Medicare beneficiaries continues under PPS, the law requires that a Professional Review Organization (PRO) serves as a medical review agent. The PRO will perform admission review, outlier review, procedure review, DRG validation and quality review functions on selected cases.

This review process is designed to be as minimally intrusive as possible into the physician-hospital relationship. The continuing review by the PRO will give the government assurance that the quality of care has not been sacrificed for the sake of maximum hospital reimbursement.

OUR MAN ON EDUCATION

(Continued from page 345)

repeating old ways simply because that's what we know and feel comfortable with. If that spirit of inquiry is with you now and you value understanding, then by all means, trouble to learn how this DRG system will work and what it will mean at your hospital.

And how can you learn about it? I'd pay attention to these resources: your hospital administrator and discussions at hospital staff meetings, as well as bulletins from the Iowa Medical Society, Iowa Hospital Association and Iowa Foundation for Medical Care. Here at the College of Medicine we have some especially knowledgable individuals who might be able to help. Or if you think I might help, let me know.

Financial Planners: Buzz Word or Reality?

David Black, C.F.P.
Des Moines, Iowa

The phrase "financial planning" is "in" today. Services available under this banner can differ significantly. The smart person will look closely at any potential relationship with a planner. The following tips on choosing a planner are the first of a two-part series on the subject.

SELLING FINANCIAL advice is big business today. Membership in the International Association for Financial Planning, a trade group, is over 13,000 currently and is growing at a fast pace. Anyone can claim to be a *financial planner,* but how can the potential client-consumer be sure that *professional financial advice* will be rendered? This article will examine several key parameters to be investigated by the physician *before* pursuing a business relationship with the financial planner. Considerations will be divided into two categories, *Intangible Factors* and *Tangible Factors.* They will be discussed separately in a two-part report.

INTANGIBLE FACTORS

Personal Factors — Surprisingly, it is the intangible factors that should be scrutinized initially. They may be more important than the more obvious characteristics to be discussed later.

Because comprehensive financial planning becomes such a personal process, it will be necessary for you and perhaps your spouse, also, to be "comfortable" with the planner. You will find it difficult to communicate about confidential matters, both financial and emotional, with someone you do not trust highly.

Without a discernible reading on the potential planner's integrity and honesty it is meaningless to proceed to evaluate other areas. Look for specific indicators that the planner has your interests uppermost in mind. For example, question his willingness and ability to "be creative" for you and take note of his ability to ask in-depth, meaningful questions. Beware of those who are busy telling you about their "hot ideas" and not listening to the questions you are asking. Another important factor is how the planner relates to your other advisors or your spouse. His patience and ability to listen may make a big difference to you in areas other than interpreting your goals.

References — References are not the only criteria that can be used. However, they do afford a reading as to character and reputation. Finding a planner who is concerned about his own reputation and image is a positive starting point. References which include other professionals, known to be specialists in their respective fields, are most meaningful.

Good Judgement — It is necessary to keep in mind exactly why you are paying for the help of a planner. You should try to judge if the prospective planner has a "sixth sense" about money and its management. After all, one of your primary objectives will be to improve retention and growth of your money, not how to

Mr. Black is a certified financial planner and is associated with The Prouty Company, the Iowa Medical Society insurance administrator.

produce greater income from your medical practice.

Most people enter a formal relationship with a financial planner for these common reasons: to define their goals; to pursue a program aimed at the defined goals; to keep careful records, and to keep their investments up-to-date. If your planner is organized, he can guide you toward your goals. Additionally, you should expect your planner to help you keep tax avoidance in the right perspective. Tax-sheltered investments make sense only under certain conditions and you will often rely on his judgement to define specific risks.

Diversification of your asset portfolio will make the most sense over the long run. The financial planner and his client investor should recognize the potential for making mistakes. By hedging, they recognize this fallibility and do everything humanly possible to minimize the cost of errors. So, you should look for a planner who will admit he was wrong in his recommendation if that proves to be the case.

Time — Another intangible factor worth considering is the commodity of time. The process involves work and commitment on both the part of the planner and yourself, so both of you will have to make fair allocations of time to spend together. This consideration is especially important if your prospective planner is not a local resident and travel time is a factor. Although close proximity is not a prerequisite for having professional service, you're asking for trouble if directives are controlled by an "ivory tower" located out-of-state. Ask for an estimate of the interview and preparation time the planner expects to be required.

Next month's issue will continue with a discussion of the tangible factors: knowledge, credentials, compensation, continuing education, computer backup, and product availability.

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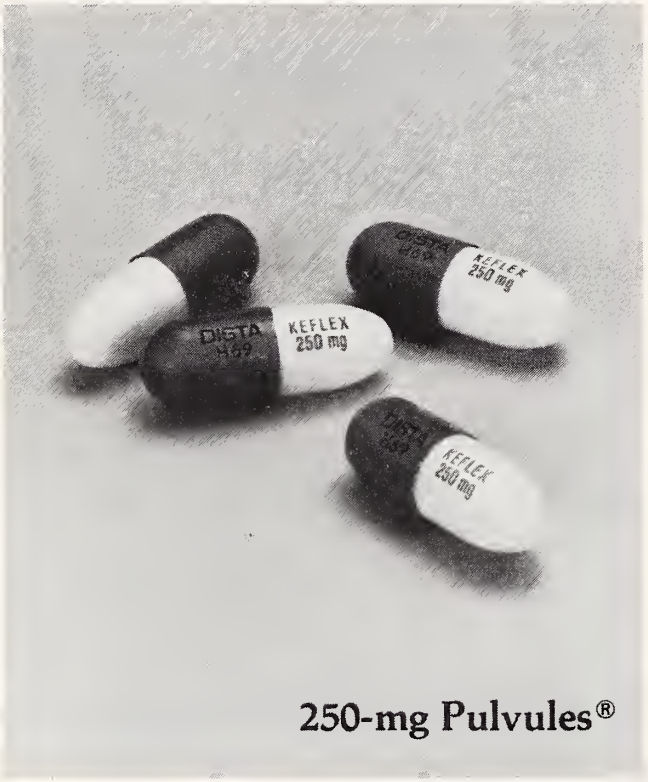
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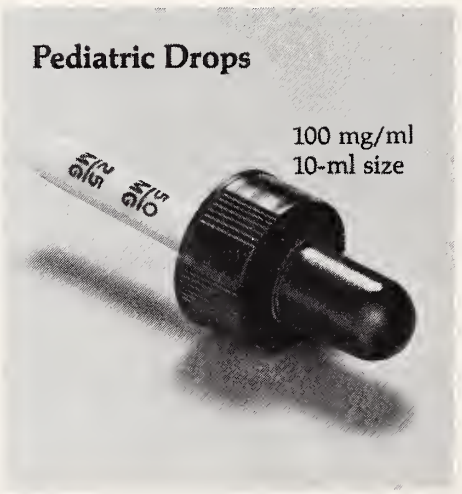
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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

MISGUIDED LOVE A CAUSE OF CHILDHOOD ILLNESS

IT HAS BECOME APPARENT to me in over 30 years of practicing pediatrics that there is a diagnostic entity which I have chosen to call "Parentitis." Parentitis is a condition which is undesirable brought about in a child by the actions of the parents. Recently, I came upon a news release from the University of Southern California which substantiated this long-felt conviction. Gershon Lesser, a U.S.C. clinical instructor of medicine, states millions of parents are teaching their children to be sick. Children are often conditioned to regard illness as actually desirable. Sickness is rewarded by misguided love. The parents feel overly sorry for the ill child — which may be natural — but often that concern is communicated in the form of rewards for being ill, e.g., story books, fancy balloons, special treats, and excessive attention.

Doctor Lesser says there is overwhelming scientific evidence that people can think themselves into really serious conditions of disease. As a pioneer in the "wellness movement," he emphasizes mind-body interaction in all aspects of health. Illness in children can be induced by the power of suggestion from parents as surely as sugar-pill placebos can cure and witchcraft curses can kill, according to Lesser. Often in a home where the parents are "too busy" or uncaring to give the children proper love and attention under everyday living circumstances, the ill child receives great rewards because of guilt feelings.

All these observations must not be misconceived as a lack of compassion. They must be looked upon in a positive manner. When sufficient love is expressed under normal conditions, there will be no need to express disproportionate amounts of love during sickness. Lesser's comments conclude as follows: "Unconditional love means you're not demanding certain types of performance in return for your love. An unconditionally loving parent will never communicate the message that 'I'll love you more if you get better grades' or 'I'll love you more if you do better in Little League.' Likewise, an unconditionally loving parent will never communicate the idea to his child that 'I'll love you more if you get sick.'"

Think about it, Doctor; I believe he has valid thoughts about a situation we see not only in pediatrics, but in adult medicine as well. In fact, Lesser comments on a case wherein a patient stated she wasn't sure she wanted to be cured because when she was ill her husband had "never been so good" to her. — M.E.A.

Letter to the Editor—

SORRY DRS. MILLER

Dear Editor:

I was shocked to read in the July edition that I was beginning family practice in Bellevue, Iowa.

Can there actually be two Dennis L. Millers practicing medicine in the state of Iowa, or is this some kind of typographical error?

I would like for my friends and colleagues to know that I am still happily engaged in the practice of orthopaedics in Davenport, Iowa, and I intend to stay here for many more years, in that we have just built a new office facility. *— Dennis L. Miller, M.D., Davenport, Iowa.*

Editor's Comment: A July entry in the "About Iowa Physicians" section of the JOURNAL *should have read Dennis G. Miller, not Dennis L. Miller. For that, we apologize to both Doctors Miller.*

Similarity of names are an editor's nightmare. For example, in Des Moines we have four Doctors Brown — two are Thomas Browns and two are Robert Browns. Fortunately, their parents did give different middle names. To Dennis L. and Dennis G., Thomas A. and Thomas M., and to Robert S. and Robert T., and to all Iowa physicians, we will try harder to identify you properly.

Letter to the Editor—

MIKEY'S STORY: WHAT WOULD YOU DO?

It was Sunday afternoon when a worried mother called. Her 5-year-old son had discovered a bottle of baby aspirin. Not deterred by a "childproof" cap, Mikey pried the lid off with the assistance of a fork and two willing siblings.

Mikey told his mother he had hidden the contents of the bottle. After some "persuasion," Mikey confessed he had eaten some of the baby aspirin. He shared the rest with his two little sisters, ages 21 months and 3 years. According to Mikey, the 21-month old had been given 2 tablets; the 3-year old had swallowed one tablet, and Mikey had taken the remaining contents (approximately 21 tablets).

The dilemma: How reliable was Mikey's story?

If he was to be believed, then only Mikey needed medical attention; his two sisters were in no danger, having received only therapeutic amounts of baby aspirin. But what if Mikey was not telling the whole truth? Then both of his sisters might be in grave danger of an aspirin overdose.

On my recommendation, Mikey and his 2 sisters were taken to the Emergency Department and all 3 had serum salicylate levels drawn. Mikey was immediately given syrup of ipecac to induce vomiting, pending the outcome of the tests.

It soon became apparent that Mikey had "stretched" the truth. The respective salicylate levels one hour after ingestion were as follows: Mikey, 15.8; the 3-year old, 8.3, and the 21-month old, 20.9! (therapeutic 2-20 mg/dl) Apparently the baby, in addition to Mikey, had been the recipient of a large portion of the bottle's contents.

Ipecac was immediately given to the 2 sisters. Repeat salicylate levels drawn about 2 hours after ingestion had begun to decline and the children were out of danger. Only then were they released from the Emergency Department.

The moral of this story is: A medical history obtained from a 5-year old under duress should be taken with *a grain of salt*, and not a grain of baby aspirin. — *William Jagiello, D.O., Des Moines*

RECENT BOOKS

Krupp, Marcus A., and Chatton, Milton J., editors, 1983, *Current Medical Diagnosis and Treatment*, Lange Medical Publications, Los Altos, California, $24. (A useful desk reference in the tradition of Lange Publications; concise with adequate references to assist the busy practitioner.)

Grunebaum, Henry, *et al*, 1983, *Mentally Ill Mothers and Their Children*, 2nd edition, University of Chicago Press, Chicago, Illinois, Paperback, $9.95. (Concerns of disturbed mothers and the impact upon their children as well.)

Hall, Robert E., 1983, *Nine Months Reading*, 3rd edition, Doubleday & Co., Inc., Garden City, New York, $13.95. (A medical guide for pregnant women.)

Widdowson, Rosalind, 1983, *The Joy of Yoga*, Doubleday & Co., New York, soft cover, $9.95.

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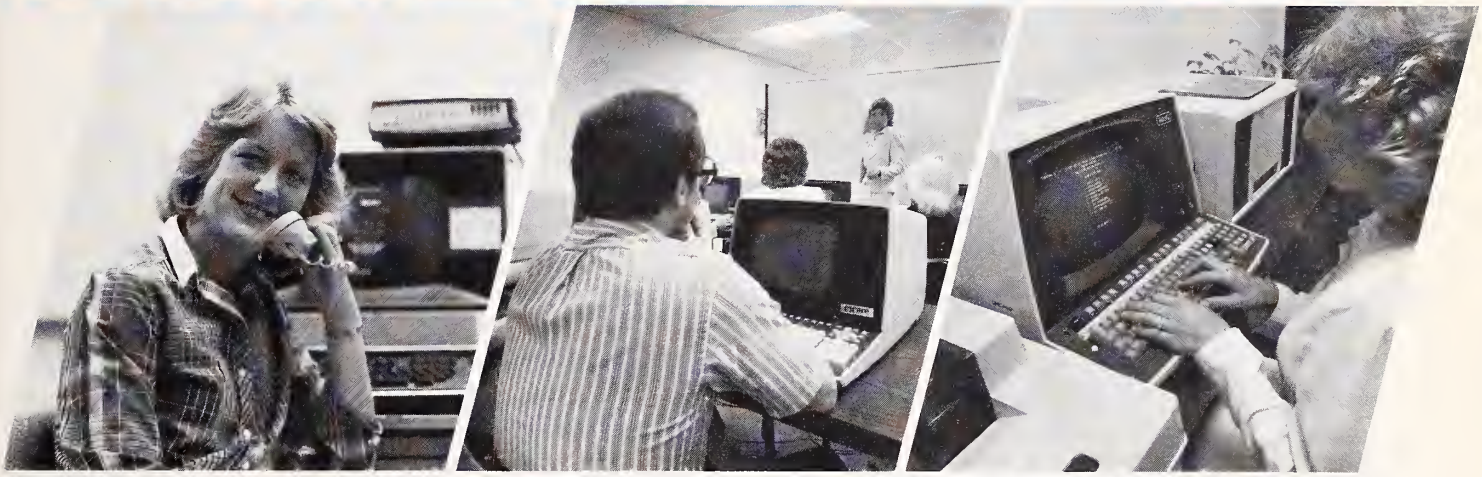
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DRUG THERAPY REVIEW



UNIVERSITY OF IOWA HOSPITALS AND CLINICS

ROBERT J. ROBERTS, M.D., Editor

EFFECTS OF PSYCHOTROPIC DRUGS ON THE CARDIOVASCULAR SYSTEM

TODAY about 20% of the prescriptions written in the United States are for psychotropic drugs.[1] Among these drugs are the phenothiazines, the tricyclic antidepressants and lithium. Because of their extensive use, it is not surprising that a significant number of side effects have been reported. These side effects are multiple and involve various organ systems. This paper will, however, be limited to a discussion of the effects on the cardiovascular system. Specifically, EKG changes, hemodynamic effects and myocardial injury will be reviewed. Sudden death, which is believed to be a possible consequence of psychotropic drug use, will also be discussed briefly.

THE PHENOTHIAZINES

EKG changes are multiple and variable, including repolarization changes, conduction abnormalities and arrhythmias.[2] The most significant are the T-wave changes and the prolongation of the QT interval. T-wave changes are the most common abnormalities observed and have been noted in both therapeutic and toxic doses. U-waves, even when present, cannot explain the almost characteristic notching of the T-wave. These T-wave changes appear to be more common in females, and their frequency of occurrence is not related to aging. Interestingly, some fluctuation in the appearance of the T-wave has been observed even as the dose of the phenothiazine remained constant. The prolongation of the QT interval may be due to either widening of the T-wave or the QRS or both.

The prolongation of the QT interval in the presence of a widened T-wave is very important because it suggests inhomogeneous or asynchronous repolarization in the myocardium, a situation that may predispose to the development of life-threatening arrhythmias.[3] Yet arrhythmia has not been demonstrated to be an invariable consequence of the T-wave changes and QT prolongation which are frequently observed. Furthermore, it has been convincingly demonstrated that the T-wave changes can be reversed by fasting, potassium supplementation and propranolol.[4] Due to these considerations, the present consensus is to regard the T-wave changes per se as being benign and not an indication for stopping the drug. There is, however, no long-term prospective study that has shown this opinion to be valid.

Hypotension and decreased contractility have been reported. The Boston Collaborative Drug Surveillance Program (1966-1975) listed a 2.2% incidence of orthostatic hypotension with chlorpromazine use. Other studies, however, found no change in the blood pressure, and a case has been reported where the blood pressure tended to increase as the dose of the phenothiazine increased.[5] It was further noted that tolerance seemed to develop to the hypotensive effect of phenothiazine after prolonged use.[5] Thus, it is not very clear how significant a problem hypotension is, although there is general agreement that it should be considered, and blood pressure should be monitored when giving phenothiazines to elderly patients who may be predisposed to hypotension.

There have been reports of decreased contractility resulting in left heart failure. The evidence for this is not convincing, in part because these cases were reported before the advent of radionuclide ventriculography and other noninvasive methods of assessing left ventricular function. In addition, those pa-

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

tients who developed left heart failure were receiving other drugs that may potentially cause decreased contractility.

Alexander and Nino reported a case where phenothiazines appeared to have convincingly caused myocardial infarction.[6] In this patient, they documented an increase in SGOT and CPK every time chlorpromazine was given. The authors claimed that evidence of myocardial infarction appeared in the EKG on the second trial.[6] Unfortunately, the EKG showing the acute myocardial infarction was not included in the report published. No similar case can be found in the literature.

THE TRICYCLIC ANTIDEPRESSANTS

As was the case with the phenothiazines, EKG alterations include repolarization changes, conduction defects and arrhythmias.[7] The repolarization changes are most interesting. These have been observed to disappear when the use of the tricyclic antidepressant is continued beyond one year. Thus, many authorities regard them as benign and not an indication for discontinuing the drug.

Conduction defects are variable. Prolonged PR and QRS intervals have been observed. Bundle branch block, especially right bundle branch block, occurs. Both second-degree and third-degree AV block have been reported. The HV interval has been found to be prolonged in some cases with therapeutic dosage, mostly when the blood level was greater than 200 ng/ml, and in cases of overdose. The prolongation of the QRS duration has the most important clinical implications. It signifies the presence of toxic levels of tricyclic antidepressants in the blood in most cases. Although it is not an infallible parameter, a QRS duration of 100 msec or greater is significantly correlated with a toxic plasma level of more than 1000 ng/ml.[7] Thus, a patient who is asymptomatic but shows QRS prolongation of 100 msec or greater should be suspected of having a significant overdose and must be monitored.

In therapeutic doses, only increased heart rate or sinus tachycardia may be found.[7] In toxic doses, however, nearly all types of arrhythmias have been reported: sinus bradycardia and asystole on the one hand, and sinus tachycardia, supraventricular tachycardia, atrial fibrillation, atrial flutter, premature ventricular contractions, ventricular tachycardia, and ventricular fibrillation on the other. The most frequent among these, however, is sinus tachycardia. Not only is it the most common cardiovascular side effect, but it also heralds the onset of toxicity even before other signs or symptoms are present. And when present, it is the most persistent.[7]

Hypotension is the most significant hemodynamic effect of the tricyclic antidepressants. It is often orthostatic but may be profound and present even in the supine position. Its true incidence is unknown, but in the toxic dose range, where it is mostly found, various investigators have reported incidences varying from 11 to 29%.[7] It is persistent unless the offending drug is discontinued, and it is not predictably dose-related.[7] The presence of postural drop in the blood pressure before treatment is a good predictor of orthostatic hypotension during treatment. Thus, giving this class of drugs to the elderly patient who may have a significant orthostatic drop in blood pressure to begin with is fraught with risks. On the other hand, when given with guanethidine, bethanidine, debrisoquine, and clonidine, these drugs may be ineffective as a result of drug interaction.

Decreased contractility due to tricyclics is at best a debatable issue; but if true, it would indeed be a serious side effect of the tricyclic antidepressants. Most of the evidence for this came from case reports and from studies using systolic time intervals (STI). Unfortunately, STI are indirect measures of contractility and may be influenced not only by ventricular performance but also by a host of other factors such as age, sex, heart rate, blood pressure, and bundle branch block. Thus it is not surprising that in a recent study using radioisotope ventriculography, no change was observed in the ejection fraction, suggesting that myocardial contractility was not decreased.[8]

LITHIUM

The cardiovascular effects of lithium, though infrequent, have been observed in both therapeutic and toxic levels.[9] Unlike arrhythmias and hypotension, the EKG changes such as T-wave alterations do not correlate with the blood level. Thus, T-wave changes may be observed even in the therapeutic range, but arrhythmias and hypotension generally do not occur until plasma lithium concentrations reach 3.0 mEq/L or higher.

(Please turn to page 372)

Repolarization changes, conduction defects and arrhythmias are the EKG changes that may be seen.[9] T-wave flattening and inversion similiar to that observed in hypokalemia are present in most patients on lithium. These alterations have been observed at both therapeutic and toxic levels and are probably the most common manifestation of the cardiovascular effects of lithium. The T-wave changes are not associated with any symptoms, are reversible when the drug is withdrawn, and are thus considered to be benign. Much less frequently, U-waves and ST-depression have also been seen. QT prolongation and widening of the QRS have also been noted in toxic patients.

Conduction defects such as reversible first degree AV block, sino-atrial block, intraventricular conduction delay, right bundle branch block, left bundle branch block, and left anterior hemiblock have been described.[9] Various arrhythmias, including sinus tachycardia, sinus bradycardia, and sinus arrest have been seen.[9] Reports of premature atrial contractions, premature ventricular contractions, atrial flutter, ventricular tachycardia, and ventricular fibrillation is in the literature.[9]

Hypotension and cardiovascular collapse occur, but only in the toxic range when the blood level is 4.0 mEq/L or more. There has been no report of left heart failure or decreased contractility.

On the other hand, myocarditis and myocardial infarction have been reported with both therapeutic and toxic plasma levels.[9] The data implicating lithium as the cause are not clear.

It should be noted that thiazides and methyldopa may result in lithium toxicity when given concomitantly. Thiazides may be given with lithium if the dose of lithium is decreased and lithium levels are monitored.

SUDDEN DEATH

Concern over sudden death is the reason behind the intense interest in even the asymptomatic EKG changes and episodes of hypotension observed with the use of psychotropic drugs. While some of these changes and cardiovascular effects are felt to be benign, there is no certainty that this is the case. In fact, ventricular arrhythmias have been documented in some cases of sudden death associated with phenothiazines.

Leestma and Koenig[10] made an extensive review of the literature on phenothiazines as a cause of sudden death and came up with a collection of cases that have been reported over the years. In the case of tricyclic antidepressants, large-scale epidemiologic studies have been done. While the report from the Aberdeen General Hospital Group found an association between amitriptyline and sudden death, the Boston Collaborative Drug Surveillance Program found no evidence of increased risk of sudden death when tricyclic antidepressant drugs were used.[7]

No cases of sudden death have been reported in association with the use of lithium.

SUMMARY

Most of the reported effects of psychotropic drugs on the cardiovascular system are repolarization changes, conduction defects, and arrhythmias. While the repolarization changes are generally considered to be benign, the conduction defects and arrhythmias appear to be more dangerous. Yet, it is well known that EKG changes of a similar nature can be found in young and apparently healthy people who are not taking these drugs.[11] Even more problematic are the hemodynamic changes such as orthostatic hypotension and decreased myocardial contractility. Fortunately, orthostatic hypotension is infrequent, and in the case of imipramine, may be predicted by the degree of postural drop in blood pressure before starting the drug.[7] — *Ernesto B. Baello, Jr., M.D., Fellow in General Medicine, and David J. Skorton, M.D., Assistant Professor of Medicine*

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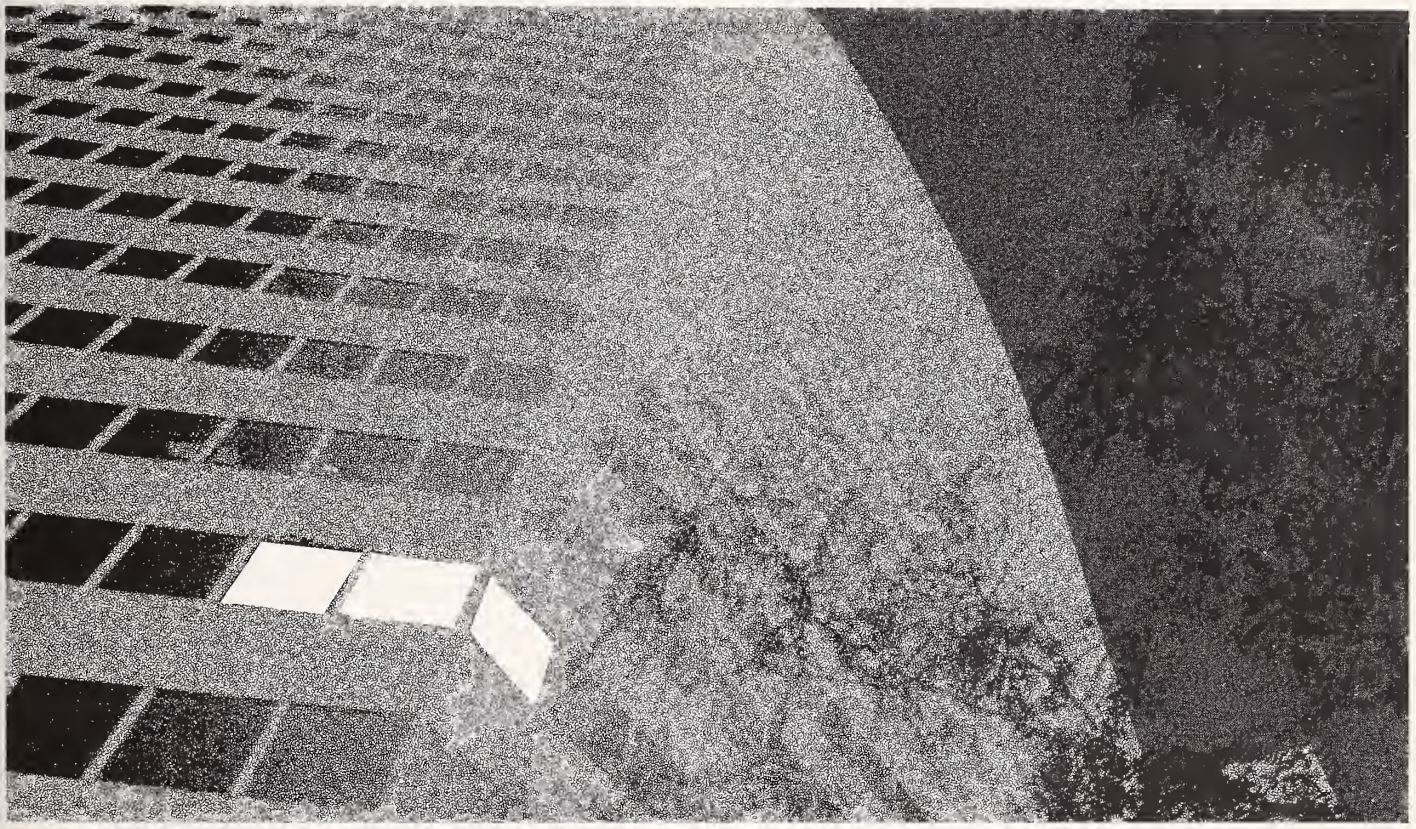
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LOCAL BOARDS OF HEALTH

LOCAL BOARDS OF HEALTH are vital to the delivery of public health services in Iowa, and physician participation is essential to the effective functioning of these boards. Physicians throughout Iowa participate actively on their local boards of health and thereby provide a vital community service.

The Local Health Act (Chapter 137, Code of Iowa) was passed in 1967. This law requires each county board of supervisors to appoint a 5-member board of health, including at least one physician.

These physicians bring valuable knowledge and perspective to their local boards. It is appropriate to acknowledge and publicly thank the physicians who perform this uncompensated service. We salute their countless hours of service (1) for which they are not paid, and (2) for which they seldom receive any thanks.

We have listed the Iowa physicians who are currently members of local boards of health. We have also identified by an asterisk those physicians who chair their boards of health in the current year.

COUNTY	PHYSICIAN
Adair	P. G. Frankl, D.O.
Adams	Ted P. Gearge, D.O.
Allamakee	Alden F. Wiley, M.D.
Appanaase	E. F. Ritter, M.D.
Auduban	T. L. Sprague, D.O.
Bentan	C. E. Dauglas, M.D.*
Black Hawk	Karl E. Jauch, M.D.
	Thamas Bairnsan, M.D.
Baane	Jahn Murphy, M.D.
Bremer	Mike Berstler, M.D.
Buchanan	Paul J. Leehey, M.D.
Buena Vista	Bruce Vanderkaai, M.D.
Butler	Jahn Ebensberger, M.D.
Calhaun	Paul D. Knauf, M.D.
Carrall	James P. Jensen, D.O.
Cass	Thamas Payne, M.D.*
Cedar	Chester Christensen, D.O.
Cerra Garda	R. L. Bargman, M.D.*
Cherakee	T. M. Gary, M.D.
Chickasaw	Garry Cale, D.O.
Clarke	Thamas Lawer, D.O.
Clay	Steven Walfe, M.D.
Claytan	David Cranstan, M.D.*
Clintan	Gearge L. Yark, M.D.
Crawfard	David Marc Tan Creti, M.D.*
Dallas	Steven J. Humphrey, M.D.
Davis	Jack Dawkins, D.O.*
Decatur	T. R. McMillan, M.D.*
Delaware	Jahn Tyrrell, M.D.
Des Maines	William E. Andersan, Jr., M.D.
Dickinsan	K. L. Claytan, D.O.*
Dubuque	Kenneth Hazlet, M.D.
Emmet	Rabert S. Hranac, M.D.
Fayette	Jahn Mayer, M.D.
Flayd	D. L. Trefz, M.D.
Franklin	Harvard Isaak, D.O.
Fremant	F. M. Ashler, M.D.
Greene	David Decker, M.D.*
Grundy	Dahn Kruschwitz, M.D.
Guthrie	Danald W. Tadd, M.D.*
Hamiltan	Sam I. Kuramata, D.O.
Hancack	Narman D. Thede, M.D.*
Hardin	R. W. Dunlay, M.D.*
Harrisan	Stuart Schlanger, M.D.
Henry	Alfred Savage, D.O.
Haward	D. O. Maland, M.D.*
Humbaldt	Laine D. Dvarak, M.D.
Ida	Jahn Sinnatt, D.O.
Iawa	Stacy Hawell, D.O.
Jacksan	Cliffard Rask, M.D.
Jasper	R. F. Frech, M.D.
Jeffersan	William Baumann, M.D.
Jahnsan	Charles A. dePrasse, M.D.*
	Mary Beth Dewey, M.D.
Janes	Otta Senft, M.D.
Keakuk	Opas Jutabha, M.D.
Kassuth	Jay D. Mixdarf, M.D.
Lee	Miles Archibald, M.D.
Linn	James Baddicker, M.D.
Lauisa	Terrance McCarmally, M.D.
Lucas	R. E. Andersan, M.D.
Lyan	Richard Handerick, D.O.
Madisan	Gary Janssen, D.O.
Mahaska	Rabert M. Callisan, M.D.
Marian	Earl McKeever, M.D.
Marshall	James Burke, M.D.*
Mills	Charles D. Stinard, M.D.
Mitchell	Mark Steine, M.D.
Manana	William P. Garred, M.D.
Manrae	Gary W. Davis, D.O.
Mantgamery	Radmand Smith, M.D.*
Muscatine	Marc Sink, M.D.
O'Brien	Charles Breeling, M.D.*
Osceala	William E. Hicks, M.D.*

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

COUNTY	PHYSICIAN
Page	William Kuhen, M.D.*
Polo Alto	R. L. Cozine, M.D.
Plymouth	Doryl Doorenbos, M.D.*
Pocohontos	James Slottery, M.D.
Pottawattamie	J. G. Kruml, M.D.
Poweshiek	J. B. Poulson, M.D.
Ringgold	Duone Mitchell, M.D.*
Sac	W. J. Nichols, D.O.
Scott	J. H. Sunderbruch, M.D.*
	John Collins, M.D.
Shelby	Wing Tai Fung, M.D.
Sioux	Roy J. Hossebrock, M.D.*
Story	Paul Koellner, M.D.
Tomo	Chorles Moplethorpe, Jr., M.D.*
Toylor	G. Keigh Howlond, D.O.
Union	James Monsour, M.D.
Von Buren	James T. Worrell, M.D.*
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Warren	Donold Flory, M.D.
Woshington	G. J. Nemmers, M.D.
Woyne	Melody Merritt, D.O.
Webster	John Sear, M.D.
Winnebogo	R. D. Broinerd, D.O.
Winneshiek	Dovid W. Wright, M.D.*
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Worth	B. J. Osten, M.D.
Wright	A. J. Kollosch, M.D.
City of Council Bluffs	Lowrence Keefe, M.D.
	Dennis S. Jones, M.D.*

The accomplishments of local boards of health have improved significantly the health and quality of life in Iowa. All counties in Iowa now have public health nursing services. In most counties this is a service under the local board of health. In a few, it is provided by a visiting nurse association or is under some other auspices. In all but one county, the nursing service is certified as a home health agency for Medicare-Medicaid. The boards also continue to expand their efforts in environmental health. Fifty-nine counties now employ environmental health workers.

Local boards of health play a vital role in public health in Iowa and continue to improve the public health services to the communities of our state. If you are one of the physicians who has served, or are currently serving, on a board or advisory committee, we take this opportunity to publicly express our appreciation. We ask the other physicians of Iowa to join us in saying "Thank You."



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July 1983 Morbidity Report

Disease	July 1983 Total	1983 to Date	1982 to Date	Most July Cases Reported From These Counties
Amebiosis	7	32	51	Block Hawk, Boone, Polo Alto, Scott
Brucellosis	1	1	3	Tomo
Chickenpox	34	5514	5853	Block Howk, Buchanon, Dubuque, Jefferson, Linn
Compylobocter	86	203	165	Scottered
Cytomegolovirus	0	7	26	
Eaton's Agent infection	0	100	141	
Encepholitis, virol	6	27	16	Bremer, Johnson, Lee, Pottawattamie
Erythemo infectiosum	0	25	246	
Gostroenteritis (GIV)	38	8537	7972	Block Howk, Johnson
Giordiosis	15	95	72	Scattered
Hepatitis, A	1	18	52	Decatur
Hepotitis, B	9	52	58	Scottered
Hepotitis, Non A-B	4	26	8	Johnson, Polk, Sac
Hepotitis type unspecified	0	7	18	
Herpes Simplex	100	589	231	Scattered
Herpes Zoster	0	6	10	
Histoplosmosis	0	12	14	
Infectious mononucleosis	2	119	127	Dubuque, Keokuk
Influenzo, lob confirmed	0	107	73	
Influenzo-like illness (URI)	153	28464	27224	Block Howk, Johnson, Kossuth, Scott
Legionellosis	1	4	16	Dickinson
Molorio	1	3	5	Johnson
Meningitis				
oseptic	12	40	27	Scottered
bocteriol	15	99	99	Scottered
meningococcol	1	14	5	Linn
Mumps	0	35	29	
Pertussis	0	0	5	
Rabies in onimols	15	149	254	Scottered
Reye Syndrome	1	2	4	Morsholl
Rheumotic Fever	0	1	3	
Rubello (Germon measles)	0	0	0	
Meosles	0	0	0	
Salmonellosis	49	155	172	Scattered
Shigellosis	2	19	22	Pottowottomie, Woodbury
Toxic Shock Syndrome	4	14	14	Corroll, Linn, Polk
Tuberculosis				
totol ill	7	43	48	Cerro Gordo, Lee, Polk, Scott
boct. pos.	5	31	36	Cerro Gordo, Polk Scott
Typhoid Fever	0	0	1	
Venereol diseoses:				
Gonorrheo	404	2567	2673	Scottered
Syphilis	3	10	18	Dovis, Muscatine

Loboratory Virus Diagnosis Without Specified Clinicol Syndrome: Hookworm — 1, Scott; Echovirus — scottered, 7; Yersinio — Johnson, Jones, Polk 3; Clonorchis — Polk, 1.

NEWS/PRODUCTS, PROGRAMS, ETC.

Information on various products, programs, etc., is received regularly by the IMS JOURNAL. *Here are short items sifted from the mail by the Scientific Editor. A reference to a specific product is not intended to suggest any particular endorsement. Additional information on any entry may be obtained by contacting the* IMS JOURNAL.

MANUAL ON USE OF ETHYLENE OXIDE — The American Hospital Association recently published a manual on ETHYLENE OXIDE USE IN HOSPITALS for training hospital personnel in safe and effective ethylene oxide gas sterilization. This excellent 176-page book is available from AHA, 840 North Lake Shore Drive, Chicago, Illinois 60611. The price (a bit high) is $42 for members (institutional and personal) of AHA, and $52.50 for others.

NEW DRUG — Winthrop Laboratories, a division of Sterling Drug Inc., has received approval to market a reformulated Talwin 50® (pentazocine) tablet to include naloxone. In recent years, drug addicts have combined Talwin® 50 with the antihistamine tripelennamine and the mixture called "T's and Blues," has been misused by injection. If misused by injection, the naloxone will cancel the effects of Talwin®.

NEW ANGINA PECTORIS MEDICATION — Marion Laboratories recently received approval to market a new medication for angina pectoris under the trade name CARDIZEM. Cardizem, a calcium blocker, is available in 30 mg and 60 mg tablets. The recommended dosage for angina pectoris, depending upon the severity of symptoms, is 120 mg-240 mg per day.

3M SKIN STAPLER — 3 M's Surgical Products Division has developed a small, disposable skin stapler that dispenses one staple. Closure of certain small skin wounds can be simplified using this "Precise One-Shot Skin Stapler."

NEW SIGMOIDOSCOPE — A new flexible 35 cm fiber optic sigmoidoscope is gaining wide acceptance by physicians. This instrument available from Warner Lambert Technologies, Inc., AO Scientific Instruments Division, Southbridge, Mass. 01550, is featured in a paper appearing in AMERICAN FAMILY PHYSICIAN, November 1982 (vol. 26, pp 133-141).

ANTIHYPERTENSIVE AGENT — Pennwalt Corporation released in June a new step-2 antihypertensive agent, Hylorel® (guanadrel sulfate). Useful in achieving good blood pressure control in patients with mild to moderate hypertension, who cannot be adequately controlled with thiazide diuretics alone, guanadrel has an onset of action approximately 2 hours after oral administration with drug level achieved at 1.5-2 hours.

NEW LOOP DIURETIC — Hoffmann-La Roche Inc., has released a new loop diuretic, indicated for the treatment of edema associated with congestive heart failure, and hepatic and renal disease. Bumex® (butetanide/Roche) is available in an oral (0.5 mg. and 1.0 mg.) scored tablets as well as an injectable form. Butetanide was first introduced in Great Britain in 1973, and is now approved for use in 61 foreign countries.

THINSULATE WRAPS FOR INFANTS — 3 M's Thinsulate thermal insulation is now available in buntings and headwraps for newborn infants. Thinsulate wraps insulate up to seven times better than standard receiving blankets, reducing heat loss from tiny infants by as much as 68 percent. For a copy of a descriptive bulletin regarding availability and consideration for use, write 3M, Department SU83-9, Box 33686, St. Paul, MN 55133.

FREE CATALOG — The National Committee for Prevention of Child Abuse has numerous publications pertaining to child abuse prevention. Single copies of their catalog may be obtained free upon request to NCPCA, Publishing Department, 332 South Michigan Ave., Suite 1250, Chicago, Illinois 60604-4357.

ABOUT IOWA PHYSICIANS

Dr. Norma Hirsch, Des Moines, is one of four women receiving 1983 Women of Achievement Awards from the Greater Des Moines YWCA. A neonatologist at Iowa Methodist Medical Center, Dr. Hirsch was recognized for her outstanding professional achievement.

Dr. J. H. Thomas, Sibley physician for 35 years, retired in July. Dr. Thomas received the M.D. degree at Creighton University and interned at DePaul Hospital in St. Louis, Missouri. . . . At the 50th class reunion of Toledo high school graduates, **Dr. Charles Maplethorpe** was presented a special plaque for his many years of professional and volunteer service in that community. . . . **Dr. Paul Manning** and **Dr. Michael A. Dehner** recently joined Medical Associates in Clinton. Dr. Manning received the M.D. degree at Creighton University and completed his internal medicine residency at St. Joseph Hospital in Omaha. Dr. Dehner received the M.D. degree at the U. of I. and completed his family practice residency in Des Moines. . . . **Dr. Gerald F. Gehling** recently assumed the medical practice of **Dr. Martha Capizzi** in Glenwood. Dr. Gehling received the M.D. degree at the U. of I. Prior to locating in Glenwood, Dr. Gehling was with the U. S. Air Force at Offutt Air Force Base Hospital in Bellevue, Nebraska. Dr. Capizzi plans to move to San Diego, California. . . . **Dr. Ron Hiemstra** recently joined **Dr. Tom Gary** in family practice in Cherokee. Dr. Hiemstra received the M.D. degree at the U. of I. and completed his family practice residency in Sioux City. . . . New staff officers at Cher-

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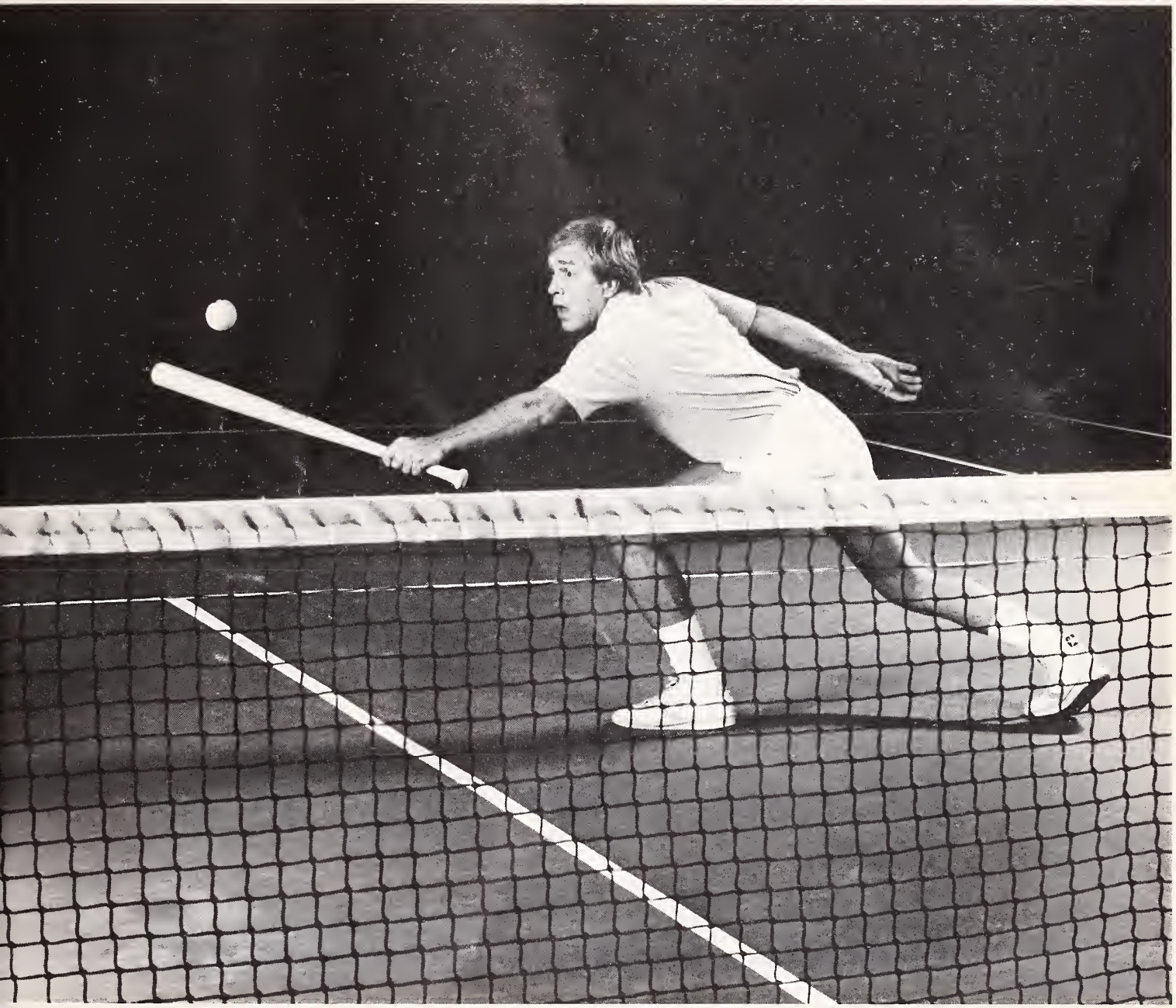
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CONTACT: Department of CME and Meeting Services, Minnesota Medical Association, Suite 400, 2221 University Avenue SE, Minneapolis, Minnesota 55414, 612/378-1875.

okee Mental Health Institute are **Dr. Brian T. Fulton,** president; **Dr. Dennis M. Lambert,** vice president; **Dr. Theodore Liautaud,** secretary and **Dr. B. Frank Vogel,** chief of staff.

Dr. George D. Jenkins, Burlington physician for 50 years, recently retired. Dr. Jenkins started one of Iowa's first county health centers in 1933. For the past 50 years Dr. Jenkins has accepted needy patients referred by the Iowa Department of Health for little or no compensation. Dr. Jenkins recently received a certificate from Governor Terry Branstad in recognition of this 50 years of service to the citizens of southeast Iowa and to the State Department of Health. Dr. Jenkins will continue as the visiting physician at the Iowa Army Ammunition Plant. . . . **Dr. E. B. Getty,** longtime Primghar physician, recently was presented a plaque by the Primghar Betterment Council in appreciation of his 40 years' service. Dr. Getty recently retired from private practice. . . . At a recent meeting of the Waverly Hospital medical staff,

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Dr. John Brunkhorst was named president; **Dr. Michael Berstler,** vice president, and **Dr. David MacMillan,** secretary-treasurer. All are Waverly physicians. . . . **Dr. Frederick Blodi,** professor and head of the U. of I. Department of Ophthalmology, and **Dr. Otis Wolfe,** who has practiced at the Wolfe Eye Clinic in Marshalltown for 37 years, recently were honored by the Iowa Society to Prevent Blindness. They were cited as "people of vision whose clear perspective and far-sightedness in community service and devotion . . . have earned the respect of . . . fellow Iowans."

. . . **Dr. James R. Watson** recently assumed the Fairfield medical practice of his late father, Dr. C. F. Watson. A former resident of San Antonio, Texas, Dr. Watson received the doctor of osteopathy degree at the University of Osteopathic Medicine and Health Sciences in Des Moines. He had postgraduate study at the University of Iowa before serving two years as a doctor at the Army Induction Center in San

(Please turn to page 382)

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Antonio. He has practiced privately in that city since his discharge. . . . **Dr. Marc Hines** recently began the practice of neurology at the Ottumwa Clinic. Dr. Hines received the M.D. degree at Baylor College of Medicine in Houston, Texas. Since 1982, he has served as chief resident in neurology at Baylor Affiliated Hospitals.

DEATHS

Dr. Dean W. Clapsaddle, 69, Clear Lake, died July 4 at his home. Dr. Clapsaddle received the M.D. degree at the U. of I. College of Medicine and interned at Sacred Heart Hospital in Spokane, Washington. He began medical practice in Clear Lake in 1946, retiring in 1975. Dr. Clapsaddle was a member of the First Class of Fellows of the American Academy of Family Physicians of 1972. He was a life member of the American Academy of Family Practice, honorary staff member of St. Joseph Mercy Hospital and World War II veteran.

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In The Public Interest

Comments on The Times

STRAIGHTFORWARD. That's the kind of talk we say we want to hear.

Straightforward talk it was at a recent Des Moines Conference on Prospective Payment. It came partly from Henry E. Simmons, M.D. Dr. Simmons has had a career divided between private and public experiences. He's now consulting for Peat, Markwick, Mitchell and Company. He's held high government posts including that of deputy assistant secretary for health in HEW (now HHS).

Said Dr. Simmons about tomorrow's health care terra firma:

"What does this (the relentless pressure of critics to evoke economies) have to do with those of you in Iowa? A great deal because none of us will be an island of stability in a world of change as dramatic as this. The future is going to belong to those who understand the need for change and understand what society and the market it represents are asking.

"Therein are some remarkably different problems but also opportunities. For no matter what happens there are going to be 240 million Americans who need health care. The important difference is they are going to require it be delivered in a different way. That different way is going to be characterized by the following: Medicine the rest of this decade is going to be practiced in an environment characterized by intense pressure for control, pressure to provide a necessary range of services at a price that society can afford and the consumer accepts as a fair exchange.

"Care will probably be delivered more and more through competing integrated systems of care for a fixed and capitated amount of dollars.

"In a time of excess numbers of doctors and beds competition will become more intense. The public will demand and will get alternatives to the traditional system. Preferred provider organizations will grow. Free choice at the expense of others will become more difficult.

"More physicians will be willing to work for salaries in hospitals and groups. The corporate practice of medicine will increase. Industry will probably provide more care at the job site. Consumer sovereignty will grow. Reimbursement incentives will continue to encourage productivity, efficiency, the use of paraprofessionals, more ambulatory care, less inpatient utilization and much more careful use of ancillary resources. National medical care standards will become operative. In such an environment there will be a requirement as never before for a joint understanding of rapidly changing times by hospital leadership and the medical staff."

Dr. Simmons declared that production, efficiency and, believe it or not, quality of care are going to be the names of the game in the future.

"Medical staffs are going to have major responsibilities here. Excessive and inappropriate practice patterns will bankrupt their hospitals and lead to poor quality care. Medical staffs cannot permit quality to be compromised since buyers and patients are now sophisticated enough to know when that occurs; they will go elsewhere, thus hurting both the physicians and the hospital.

"Medical staffs will really have to define quality. They will have to set the standards and see they are understood and adhered to by their fellow physicians.

"The size of the pie is increasingly fixed. If one physician uses more for his patient unnecessarily he will have penalized his hospital and his fellow physicians. That's why medical staff privileges are probably on their way to being predicated on how a physician uses resources.

"So if there was ever a need for teamwork between staffs and their hospitals it is now. We really are interdependent on each other, neither can make it alone and at the same time those institutions where that teamwork can come about are clearly going to have substantial opportunities over others and end up the winners.

The straightforward talk ended with this admonition: *There are opportunities for some, penalties for others.*

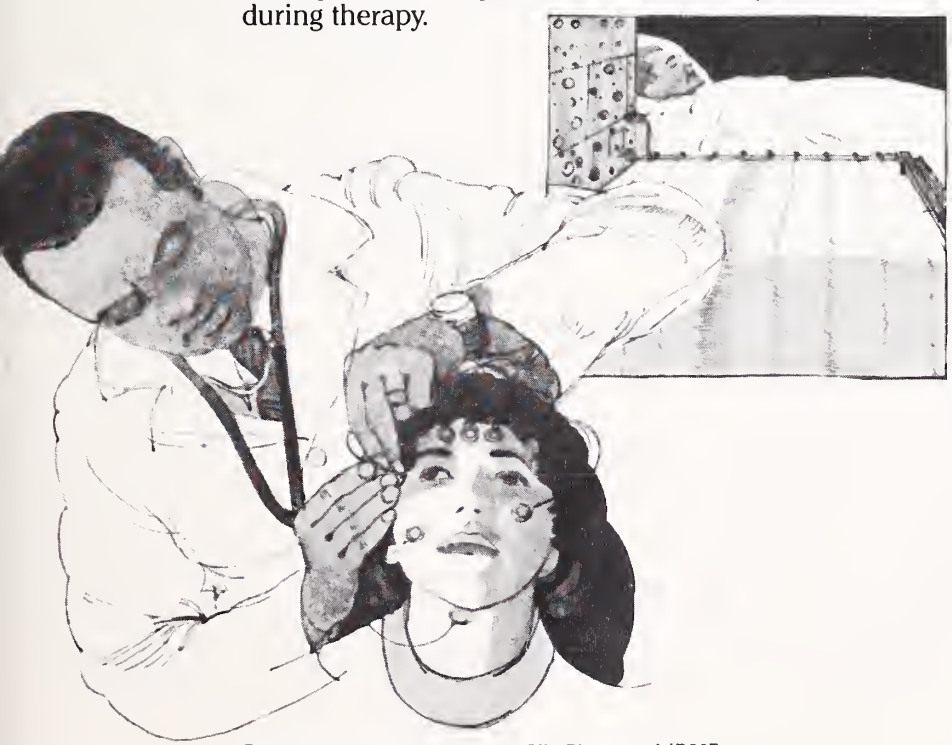
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- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

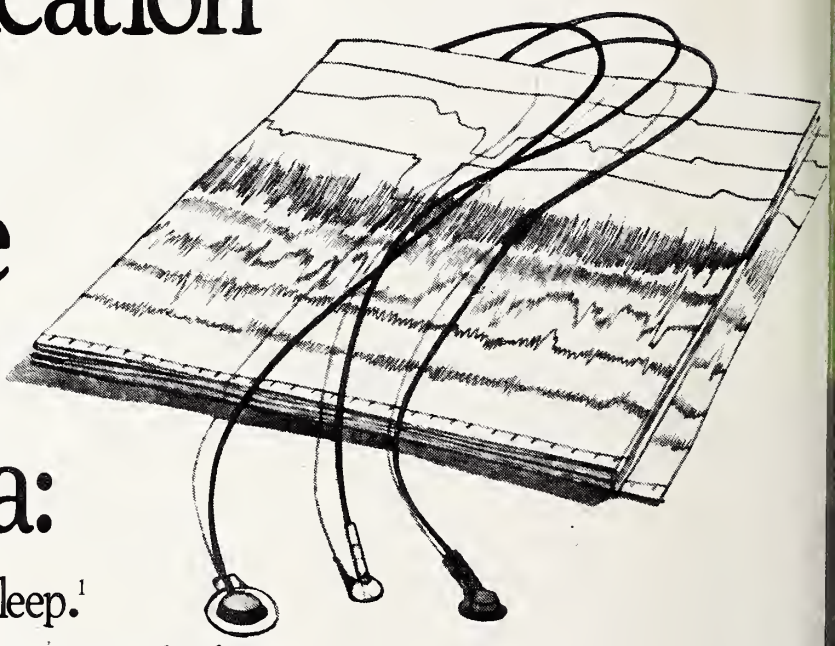
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JOURNAL OF THE
IOWA MEDICAL SOCIETY
OCTOBER 1983



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JOURNAL OF THE IOWA MEDICAL SOCIETY

OCTOBER 1983/VOLUME 73 NUMBER 10

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ABOUT THE COVER — Mercy Medical Clinic in the Valley West Mall recently joined several "walk-in" care facilities in Des Moines. In the upper photo, Steven R. Eckstat, D.O., clinic medical director, helps Medical Assistant Judy McKain x-ray a patient. The lower picture offers a view of the clinic entrance within the mall. See *In The Public Interest* for more on the subject.

MERCY HOSPITAL MEDICAL CENTER

DES MOINES, IOWA
PRESENTS

"UPDATE ON PULMONARY DISEASE"

WEDNESDAY, NOVEMBER 9, 1983

8:00 A.M. TO 4:00 P.M.

GUEST FACULTY:

ROGER C. BONE, M.D.

PROFESSOR OF MEDICINE
CHIEF, PULMONARY AND CRITICAL CARE
UNIVERSITY OF ARKANSAS
LITTLE ROCK, ARKANSAS

TOPICS: **"WEANING OF PATIENTS FROM VENTILATORS" and "ADULT RESPIRATORY DISTRESS SYNDROME (A.R.D.S.)"**

SUSAN K. PINGLETON, M.D.

ASSOCIATE PROFESSOR OF MEDICINE
DIVISION OF PULMONARY AND CRITICAL CARE MEDICINE
KANSAS CITY, KANSAS

TOPICS: **"THE SLEEP APNEA SYNDROME" and "OXYGEN THERAPY FOR THE AMBULATORY PATIENT WITH LUNG DISEASE"**

JOSEPH BATES, M.D.

PROFESSOR OF INTERNAL MEDICINE AND MICROBIOLOGY
UNIVERSITY OF ARKANSAS
CHIEF OF MEDICINE
U.S.V.A. MEDICAL CENTER
LITTLE ROCK, ARKANSAS

TOPICS: **"NEW PNEUMONIAS" and "FUNGAL PULMONARY INFECTIONS"**

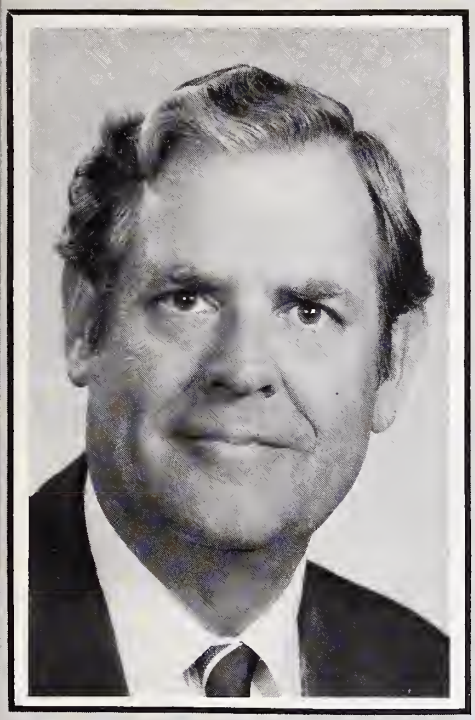
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PRESIDENT'S PRIVILEGE

PICTURE this set of circumstances: *Doctors A and B have been associated with the 10-physician Main Street Clinic for many years. Circumstances develop where they choose to establish a new office on the edge of town. Questions arise over ownership and transfer of patient records. Things proceed to an apparent stalemate.*

It's happened here in Iowa — and elsewhere around the country. Honest differences of opinion occur. But how are they best resolved?

There's one way that's not as well known — or as often used — as it might be. I refer to the Iowa Medical Society district councilor system. Thirteen councilor districts exist within the organizational structure of the Iowa Medical Society. Each district has a physician as councilor. This physician is called on in the Society's bylaws to be "the organizer and peacemaker of the district."

Even now one councilor is reviewing a question of medical ethics in an Iowa community. It is an important and valuable service. But, admittedly, it is one not widely known among rank-and-file Society members.

Dan Youngblade, M.D., a Sioux City family practitioner, is chairman of the IMS Judicial Council. This Council is composed of the 13 physicians who represent their various districts. It is the duty of the Council *in toto* to hear and act on matters that cannot be resolved by individual consideration.

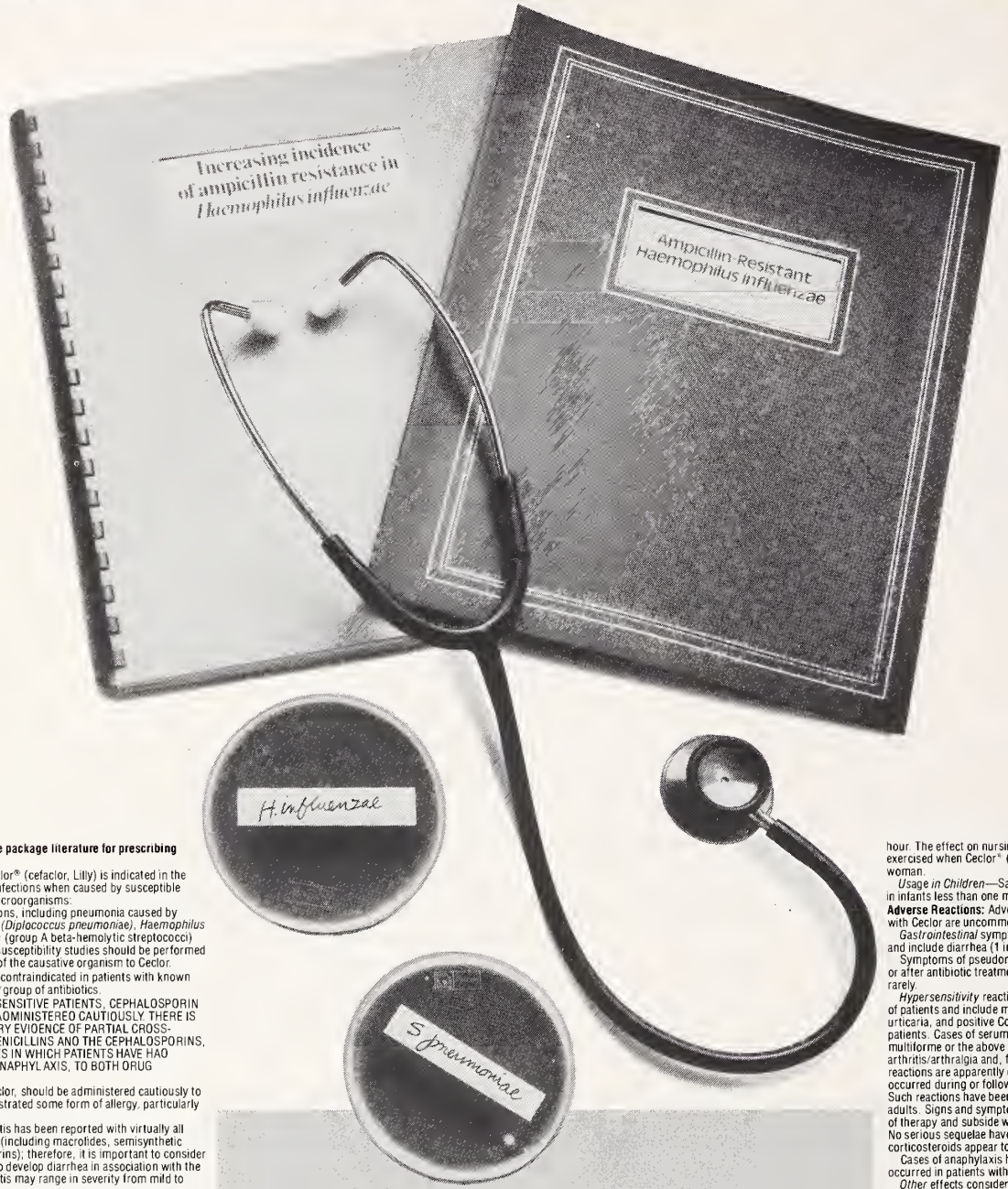
Ideally, every IMS member physician should know the name and address of his/her councilor. This is a goal to pursue. The councilors are identified and pictured each year in the IMS Member Directory; there is also a map to show the councilor districts. The 1983-84 Directory is due out shortly.

It is appropriate to acknowledge the good work done by the councilors. We need likewise to trumpet their availability to help with questions and issues falling into their domain.

Erling Larson MD

Erling Larson, M.D.
President

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[0617B2R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.*

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

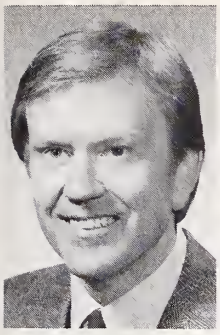
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QUESTIONS - ANSWERS

THOMAS JOHNSRUD, R.Ph.
Conrad, Iowa

COMMENTS FROM PHARMACY

The following comments have been supplied by Thomas Johnsrud, R.Ph., president of the Iowa Pharmacists Association. Mr. Johnsrud operates Conrad Pharmacy in Conrad, Iowa. His frank comments should be of interest to Iowa physicians.

Your organizational position regarding the physical presence of a dispensing physician when a medication is provided remains at odds with that of the Iowa Medical Society. Please tell us briefly why this topic holds such importance for the Pharmacists Association.

Actually, it is not the position of our Association that a dispensing physician be present when take-home medications are provided to patients. It is, however, our position that a legally authorized dispenser of prescription drugs, be it a pharmacist or a physician, should personally verify the accuracy and completeness of prescriptions before they are delivered to patients. While it is not our intent to seek legislation to prohibit physicians from dispensing drugs or to prohibit them from delegating nonjudgmental functions, we do believe that Iowa's law should be uniform with respect to the application of minimum drug dispensing standards on all who may legally dispense drugs in our state. By law, pharmacists are required to personally verify the accuracy and completeness of prescriptions prior to distribution to patients. We believe that this same minimum standard should be applied in a like manner to any other dispensing practitioner.

The Iowa Medical Society appears to have taken the position that dispensing physicians should be permitted to delegate the total drug dispensing function to any individual whom they deem appropriate. In the interest of public health and safety, Iowa pharmacists cannot accept the dispensing of potentially dangerous drugs by people with little or no pharmaceutical education — whether they're assistants of physicians or of pharmacists.

As Iowa physicians know so well, modern day drug therapy has grown increasingly complex. When used correctly, drugs can cure and control disease, sustain life, alleviate distressful symptoms and keep people out of institutions. When used incorrectly, however, those same drugs can create serious health problems, cause unnecessary suffering, force people into the hospital and even cause death. Our Association believes that physicians and pharmacists should work together, each contributing their own expertise, for the optimal care of the individual patient.

We emphasize that our legislative efforts are *not* directed at the dispensing physician, but rather at the need to enact a well defined Iowa drug dispensing law. Such a law, we believe, needs to possess minimum standards which will protect the health and safety of the public.

We know of no circumstances where this long-standing delegative authority has created any problems. Do you?

We have documented instances where assistants have dispensed wrong drug products, labeled prescription containers with inaccurate dosing schedules, packaged drugs in containers which do not preserve the drug's integrity and distributed products which have since been outdated. In our discussions with legislators, we have chosen not to emphasize those types of medication errors because we do not wish to engage in a "mud throwing" exhibition before state government.

There is no question that everyone is subject to error, including both pharmacists and physicians. However, when it comes to potentially dangerous drugs, medicine and pharmacy must do everything in their power to minimize the occurrence of those errors. On a daily basis, Iowa pharmacists detect potential problems in drug therapy and communicate those problems to the prescribing physician. Physi-

(Please turn to page 411)

THINGS YOU SHOULD KNOW

MEDICAID FUNDING

The Medical Assistance Advisory Council (MAAC) met September 20 to contemplate the 2.8% state reduction in Title XIX funding. This represents $3.6 million in the Medicaid allocation. The MAAC supported 4 recommendations of the Department of Human Services to achieve the reduction. One calls for an unspecified percentage reduction in provider reimbursement. The Human Services Council has the final say on approach.

IOWA PRO ACTIVITY

Iowa Foundation for Medical Care officers met September 14 with the IMS board to advise of plans to apply for designation as the state's professional review organization (PRO). The IFMC is requesting Society endorsement of its PRO application. Physician-sponsored organizations have a preferred status in the application process into 1984. Five basic requirements exist for a PRO, including admission review and admission pattern monitoring.

HMO REVIEW REQUIREMENTS

Stipulations in the Iowa law provide for review of health maintenance organizations. The IFMC has been requested by the state to devise such an HMO review program; this is occurring in cooperation with HMO-involved physicians. Said review will presumably include ambulatory care as furnished from IPA-physician offices.

WASHINGTON CALL

Calls on all members of Iowa's congressional delegation were made September 20 and 21 in Washington, D.C., by Society representatives. Positive in nature, the visits still produced feelings of concern over the direction of pending federal medical care legislation. IMS President Erling Larson and Legislative Chairman Clarence Denser were joined by IMPAC officers Jack Ver Steeg and Stephen Wolken in making the legislative calls.

DM MERCY BALKS

In a September pronouncement Des Moines' Mercy Hospital Medical Center indicates it will not contract with Blue Cross under its new reimbursement plan. While the new BC plan starts October 1, the Mercy contract must be decided finally when its fiscal year begins next July 1. Mercy is the first major inpatient facility to reject the BC prospective payment plan mandated by the Insurance Commissioner. Reports are that other hospitals faced with earlier fiscal years are likely to participate under the new rules.

DESIGNATE HYGIENIC LAB

Selection of the State Hygienic Laboratory as the Newborn Central Screening Laboratory was disclosed in mid-September by the State Department of Health. A bidding process was followed by the SDH in choosing a facility to do this more extensive newborn testing.

LEGISLATIVE CONTACTS

Compared to other health care providers, Iowa physicians make very little effort to contact their state legislators. So said State Representative Ned Chiodo in remarks September 15 to the IMS Executive Council. He urged his listeners to become more active. Representative Chiodo is chairman of the Small Business and Commerce Committee.

CHILD RESTRAINT HELP OKAYED

The Iowa Medical Society is working with the State Department of Transportation and the Iowa Automobile Dealers Association on projects to promote the use of child restraint systems in motor vehicles. The IMS is contributing with the others to purchase 50 toddler restraint devices to be used as loaners by the DOT; also the Society is helping support the preparation of an educational folder on this subject.

DR. KRIGSTEN SALUTED

Joe M. Krigsten, M.D., Sioux City family practitioner, received the 1984 Physician of the Year award from the Iowa Health Care Association at its annual convention in Des Moines last month.



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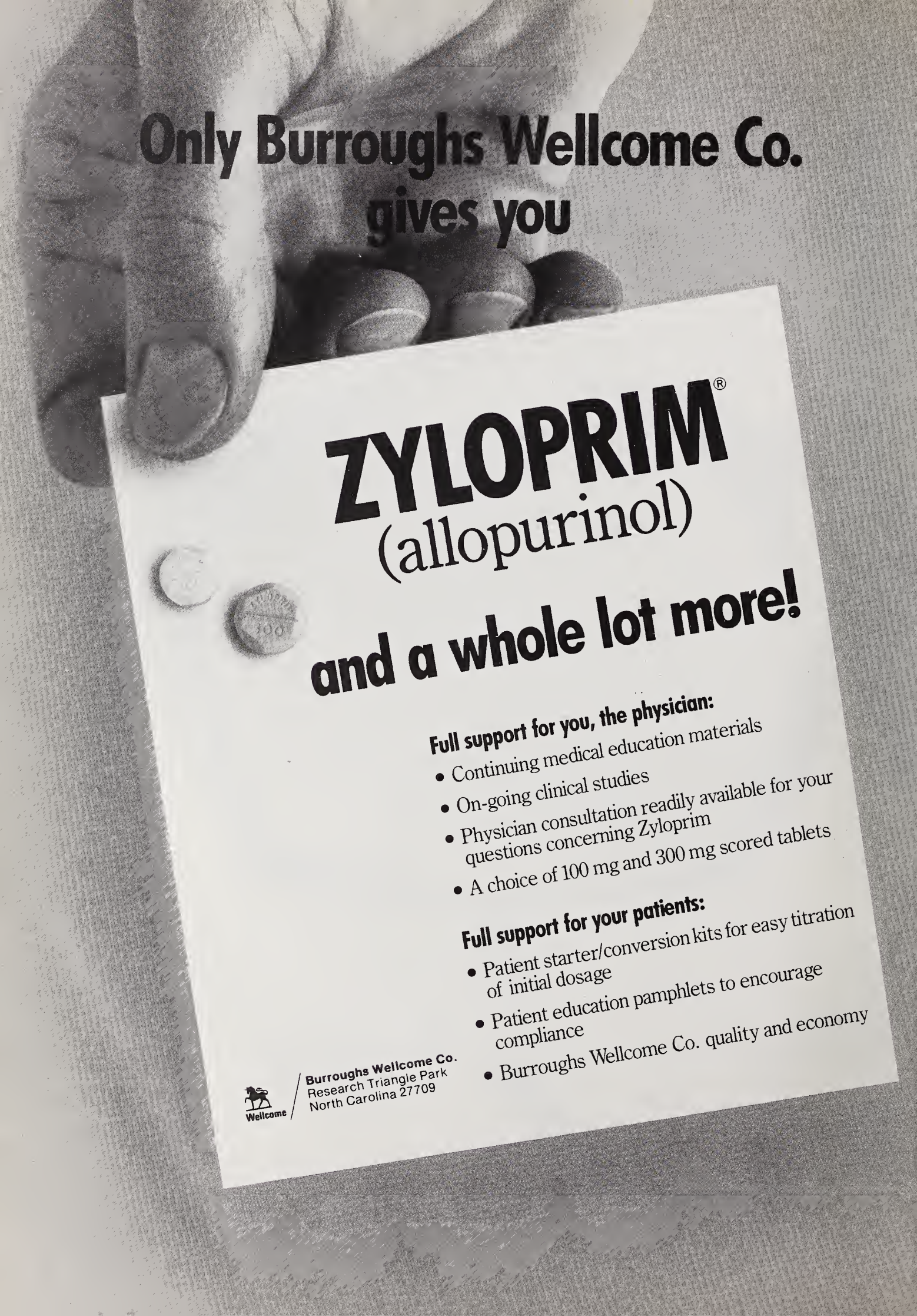
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An Iowa Contribution To Blood Banking

ROBERT C. HARDIN, M.D.
Iowa City, Iowa

Medical researchers at the University of Iowa have played an important part in the evolution of blood banking. The author was heavily involved in this work, even to the extent of holding key responsibility in Europe during World War II. He recounts here some of the interesting facts associated with the early progress in this field.

BLOOD TRANSFUSION has an interesting and, for the most part, a fairly recent history.[1] Although there are vague accounts from antiquity about its employment in humans, there is considerable doubt that injection of blood into the vascular system ever occurred prior to the description of the circulation by Harvey in the seventeenth century. After that discovery references describing both animal and human experiments became increasingly frequent in the medical literature. However, it was not until the early 1800's when Blundell conducted a series of animal studies and human trials that transfusion was placed on a rational basis. Even so, certain perplexing and troublesome problems remained. These were the tendency of blood to coagulate when removed from the vascular tree and the occurrence of violent, often fatal, reactions attending the injection of either animal or human blood into humans.

The discovery of the 4 blood groups in what we now call the ABO system and their description by Landsteiner in 1900[2] and 1901,[3] followed by the finding of the reciprocal A and B antibodies by Jansky in 1907[4] and, independently, by Moss in 1910[5] explained these hemolytic reactions and provided the technique of cross-matching. The solution of the problem of coagulation of blood removed from the circulation was achieved later. The use of hirudin, a biologic material with antithrombic activity secreted by the leech, was suggested in 1892 by Landois but on trial by Saterlee and Hooker in 1914 was found objectionably toxic. In that same year Hustin reported the use of a sodium citrate and glucose solution as an anticoagulant and Agonate performed a transfusion in which citrate alone was used.[1] Finally, in 1915, perfection of the technique and standardization of the amount of anticoagulant needed were reported in independent publications by Lewisohn[6] and Weil.[7] Relatively safe and technically simple transfusion was, at last, possible.

World War I followed shortly and transfusion was used to some extent in the treatment of casualties. Of more importance were the advances made in the understanding of hemorrhagic shock and the development of surgical methods for treatment of trauma. In the post war years these were translated to civilian practice and, during the next 20 years, gave impetus to a rapid increase in the use of blood transfusion. The problem of supply be-

This paper was presented at the dedication of the Elmer L. DeGowin Memorial Blood Center at the University of Iowa in December 1981. The author is highly regarded for his service as a faculty member and key administrator at the U. of I. He served both as Dean of the College of Medicine and Vice President of Health Affairs. As of July 1, 1983, Dr. Hardin became Dean Emeritus of the College of Medicine.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF OCTOBER 1983

came serious. Procurement of a donor, performance of a cross-match and drawing of blood were procedures often so time consuming as to negate the value of transfusion in such emergencies as postpartum hemorrhage or traumatic shock. This raised the question of whether blood could be kept in bottles for a significant period but remain effective and safe for human use.

BLOOD BANKING PRINCIPLES

These were the circumstances in 1937-38 which inspired the set of coordinated experiments, conceived and directed by Elmer L. DeGowin, to establish the principles by which blood banks operate. Two primary questions presented: (1) Can blood be preserved and stored without deterioration of its basic functions such as oxygen transport? and (2) Are there chemical or physical changes during storage which might render blood useless or harmful when injected into patients? Each question comprised a group of related inquiries and, sometimes, in the course of seeking answers new problems surfaced. These were added to those already under study and all were systematically addressed. From this work a unified concept of blood banking emerged and was tested by clinical application.

Limited amounts of "bank blood" drawn into citrate and held in a refrigerator for a few days had been administered to patients before the consequences of such storage were known. Although no one assumed that blood was improved by being bottled and stored at low temperature, the nature and extent of change was unknown. There was no criterion by which to judge if a given unit of blood was fit for human use. The most obvious sign of deterioration was that free hemoglobin was visible in the supernatant plasma. Attention had been directed to this by several persons but none, with one exception,[8] quantified the phenomenon. Furthermore, the effects of intravenous administration of partially or totally hemolyzed blood were understood incompletely, although DeGowin and coworkers,[9] as well as others,[10] studied the matter extensively. Rous and Turner[11] in 1916 reported experiments on the preservation of erythrocytes of 4 species — rabbit, dog, sheep and human. These investigations showed acceleration of hemolysis in electrolyte solutions and deceleration in the presence of the sugars, dextrose and sucrose. They also noted changes in both osmotic and mechanical fragility including marked species differences. Their preservative mixture for human cells comprised 3 volumes of blood, 2 of 3.8% sodium citrate ($Na_3C_6H_5O_7$ + 5½ H_2O) in water and 5 of 5.4% dextrose. This kept cells intact for 4 weeks and was used in a very small scale in World War I.[12] However, because of the large volume of preservative solution with a high concentration of sodium citrate the supernatant plasma had to be discarded and the cells resuspended in saline or Locke's solution when transfused.

WORK BEGAN AT U. OF I.

Before blood banking on a large scale could become practical much needed to be learned about preservation of the erythrocyte and solutions devised which would allow the blood stored in them to be administered without further processing. This was the state of the art when work began at the University of Iowa.

E. D. Plass, M.D., professor and head, Department of Obstetrics and Gynecology, who had an intense interest in blood bank development furnished the space and funds to begin the studies. At the outset, Dr. DeGowin was joined in the laboratory by John E. Harris, Ph.D., a biochemist. Three residents from the Department of Internal Medicine — O. D. Thatcher, M.D., L. W. Swanson, M.D., and the author — aided in the operation of the blood bank and participated in many of the investigations, particularly those of a clinical nature. Later Joy Bell, Ph.D., a biologist, joined the group.

The first study dealt with the problem of hemolysis during storage.[13] A series of experiments with several preservative solutions containing various combinations of dextrose, sodium citrate, sodium chloride and heparin were done. The temperature at which blood was stored also was varied. The conclusions were: progressive hemolysis of human blood occurs in any preservative mixture; the rate of hemolysis is temperature sensitive being much less at 5 degrees centigrade than at high temperatures; and the addition of large quantities of isotonic dextrose solution markedly slows hemolysis. A preservative mixture was devised which was 10 volumes of blood in 13 of 5.4% anhydrous dextrose in water and 2 of 3.2% dihydric sodium citrate in water. Free hemoglobin in the plasma was negligible up to

2 weeks of storage and was present in amounts less than 100 milligrams per deciliter at 4 weeks. Subsequent transfusion of 776 bloods in this mixture after periods of storage of from one to 38 days (60% over 10 days) was marked by hemoglobinuria in only 3 cases. In all 3 instances the blood administered had been in storage less than 48 hours.[14] Thus the efficacy of glucose in preserving blood first suggested by Rous and Turner was confirmed.

Later experiments showed the ideal concentration of glucose in the preservative mixture to be approximately 3%.[15] However, the solution described here, although safe for intravenous administration, required the injection of 1250 milliliters total volume for each unit of blood. This limited its usefulness for transfusion of children and multiple transfusion of adults. Many modifications aimed primarily at reducing total volume have been developed since by various persons. All contain sodium citrate and dextrose in varying proportions with a final concentration of the latter at about 0.5% in a total volume of blood and preservative of 600-700 milliliters. These mixtures allow storage for a lesser period than those of greater volume and glucose content. From the practical standpoint, however, the shorter holding period is acceptable in view of the smaller volume.

TROUBLESOME QUESTIONS

In the course of the studies on preservative solutions certain observations were made which raised troublesome questions. Surprising among these was that when blood was drawn into the 750 milliliters of glucose citrate mixture at room temperature and placed in the refrigerator it promptly hemolyzed in toto. It was postulated that there was a rapid entry of glucose and water into the erythrocytes rendering them osmotically fragile and prone to lysis on chilling. This was corrected by precooling the preservative solutions to 2 degrees centigrade. This empiric approach solved the immediate problem and the theory was later proved valid by detailed studies.[16]

However, this was only half an answer to a dilemma. At that time it was universally accepted that blood should be administered at body temperature. Slow warming of the blood stored in the chilled preservative also caused complete hemolysis. The obvious resolution of the problem was to administer the blood at ice box temperature. There were accounts in the literature of intravenous administration of fluids to patients at temperatures as low as 20 degrees centigrade by Rademaker[17] and others. Blood had been given at room temperature but never chilled.[18] No report had ever appeared of the administration of blood at the refrigerator temperature of 5 degrees centigrade. Theoretical calculation indicated that, because of simple dilution in the body fluids, there would be no discernible effect on body temperature. However, remote as the possibility seemed, direct influence on such centers as those controlling cardiac rate and rhythm and arterial pressure could not be excluded. To test this 10 patients were given blood taken directly from the refrigerator. Consecutive patients received larger volumes at faster rates than those preceding. Body temperature, blood pressure and cardiac rate and rhythm were monitored. No effect was observed in these 10 patients or 568 others who received cold transfusions in the first 5 months after the procedure was made routine.[19]

MORE INVESTIGATION

A second investigation had to do with a phenomenon which had been observed some time before by Duliere[20] and others.[21] Potassium is present in erythrocytes in amounts several orders of magnitude greater than in serum. During storage there is diffusion of potassium from the cells into the serum. Careful studies by the Iowa group[22] showed this was not due to hemolysis. The shift occurs rapidly during the first 5 days of storage and then lessens attaining a maximum at 15 to 20 days. The rate and amount of diffusion is independent of the composition of the preservative mixture and the temperature of storage. Plasma levels of potassium are quite high commonly reaching 75 milligrams per deciliter and often attaining values above 100. Thus a transfusion mixture of 1250 milliliters could contain free potassium in excess of a half gram, an amount which is potentially toxic. A trial[23] was conducted in which 14 patients were given bloods with various concentrations and total amounts of plasma potassium. Because it was known that injected potassium quickly disappears from the circulation, these were administered to different patients at different rates. The recipients' serum potassium levels were determined before, during and after transfusion and the

(Please turn to page 402)

heart was monitored by electrocardiography. No significant change in serum potassium level or electrocardiographic alteration was observed. It was evident that bloods with high plasma potassium content could be safely transfused into patients at the velocities achievable in that procedure.

Another laboratory observation of clinical interest was the disintegration of prothrombin during storage. This was a matter of some importance since in hemorrhagic disease of the newborn and certain disorders of the liver and biliary tract blood was given for its prothrombin content. It was found[24] that the prothrombin in stored blood decreased slowly reaching the 50% level in about 3 weeks. This occurred uniformly in all types of preservative mixtures.

CHANGES IN STORED BLOOD

These laboratory and clinical experiments had established the nature of the changes in blood stored in preservative mixtures and their therapeutic implications. However, judgement of the effectiveness of bank blood rested solely on clinical experience. It had been demonstrated capable of repleting blood volume lost by hemorrhage and of correcting anemia. There was some indirect evidence in the latter instance that the erythrocytes of preserved blood survived in the recipient's circulation for several weeks. This was most clearly noted in patients periodically transfused because of aplastic anemia. One such was transfused 37 times in 60 weeks with bloods stored for up to 4 weeks. During that period he maintained a hemoglobin level sufficient for him to work full time at his trade of carpentry.[25] It was several years later when others presented evidence of normal survival of preserved cells obtained by the technique of differential agglutination.[26]

One task remained among those dictated by the original 2 questions. This was to determine whether there were more or different reactions to preserved blood than to freshly drawn blood. Beginning with the first transfusion from the blood bank, a protocol was followed which required that the typing and crossmatching be done by technicians in the blood bank; that the recipient be visited and the clinical record examined by a member of the transfusion service team in the 24 hours following administration of the blood; and that the urine produced by the patient in the same period be

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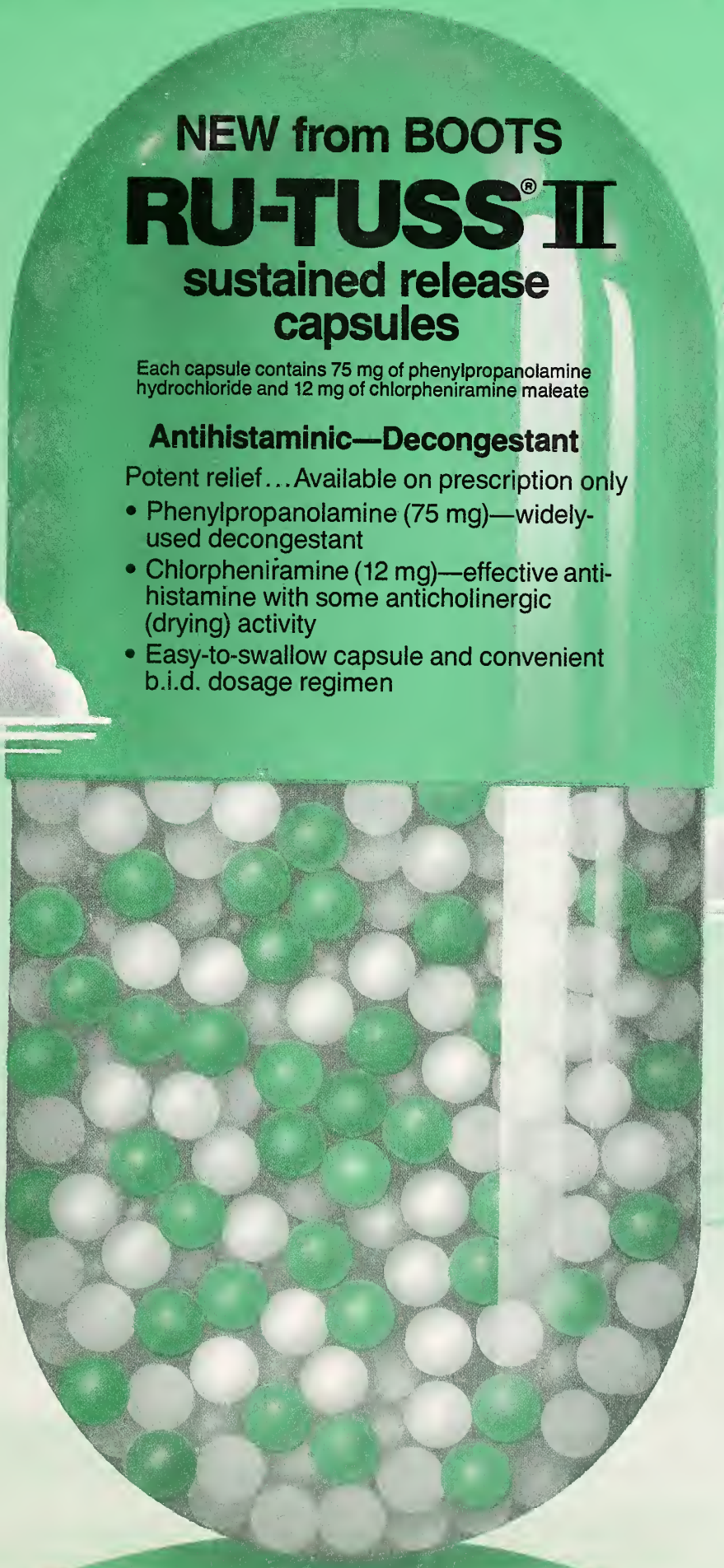
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tested for hemoglobin. A total of 2,423 transfusions (295 of freshly drawn blood and 2,128 of blood stored from one to 38 days) were monitored. Chills alone or chills and fever was the most common reaction, occurring in about 3% of cases. Urticaria was observed in 1.1% of recipients and hemoglobinuria in 0.2%. There were 2 deaths in the series — one from the administration of incompatible blood attributable to laboratory error and the other from circulatory overload in an infant. The incidence of reactions to stored blood was no greater than that to freshly drawn blood and no new types of reactions were encountered. The length of storage did not influence the number of reactions.[14] This completed the answers to the original questions but a new problem arose.

IMPENDING WAR

In 1938 war had come to Europe beginning in Austria and Czechoslovakia, and spreading by 1940 to involve almost all of the continent. There was a realization that the United States might become involved and, indeed, mobilization in this country began in 1940. There was a growing interest in blood banking on the part of the military engendered in part by accounts of its application to military medicine during the Spanish Civil War.[27] It was known also that during 1939 and 1940 blood had been transported across the Channel from England to France for use in the British Expeditionary Forces.[28] There were several visits by officers of the U.S. Army Medical Corps to the laboratories and blood bank at Iowa. A matter of great concern was whether the human red blood cell could survive the trauma of shaking during transport. In the European experiences no definitive studies were possible and the distances involved were much shorter than would obtain if the United States became involved in an overseas war. It was decided, therefore, to test whether large scale blood bank operation involving transportation over long distances was feasible.

Rous and Turner[11] had shown that osmotic fragility and mechanical fragility of erythrocytes are not interrelated and that the human cell is quite resistant to trauma. DeGowin and associates demonstrated that in all preservative mixtures there is a rapid increase in the osmotic fragility of the red cell[16] but that those stored for as long as 30 days in solutions containing dextrose remained resistant to trauma.[13] With this background a trial was mounted[29] in which blood was drawn through a closed system into vacuum bottles containing a dextrose preservative.

The bottles were packed in ice in insulated containers for transportation either by automobile (ambulance) or by airplane. In the instance of road transport the container was the 10 gallon milk can which held 10 bottles. (Readily available then but now a prized item in antique shops!) For air transport a lightweight box was constructed which held an insulated, water-tight container accommodating two bottles. The distances involved were, by ground, 720 miles and, by air, 3,500 miles. Twenty units of blood were shipped by each method. These had been held in storage from 0 to 18 days before shipping. Before and just after shipment the plasma free hemoglobin in each unit was measured. Twenty-five had increases of less than 1 milligram per deciliter. This is probably within error of the analytical method. Only 6 specimens contained more than 10 milligrams per deciliter, which is an amount just barely visible. In none was there significant breakup of cells and no difference was noted between the effects of air and ground transport. All bloods were stored for additional days after return for total periods, including shipping times of from 3 to 29 days and, then, were administered to patients requiring transfusion. No recipient was found to have post-transfusion hemoglobinuria. There was one possible reaction, chills and fever, in a patient undergoing thorocoplasty. The obvious conclusion was that, under proper conditions, preserved blood could be transported great distances without deterioration.

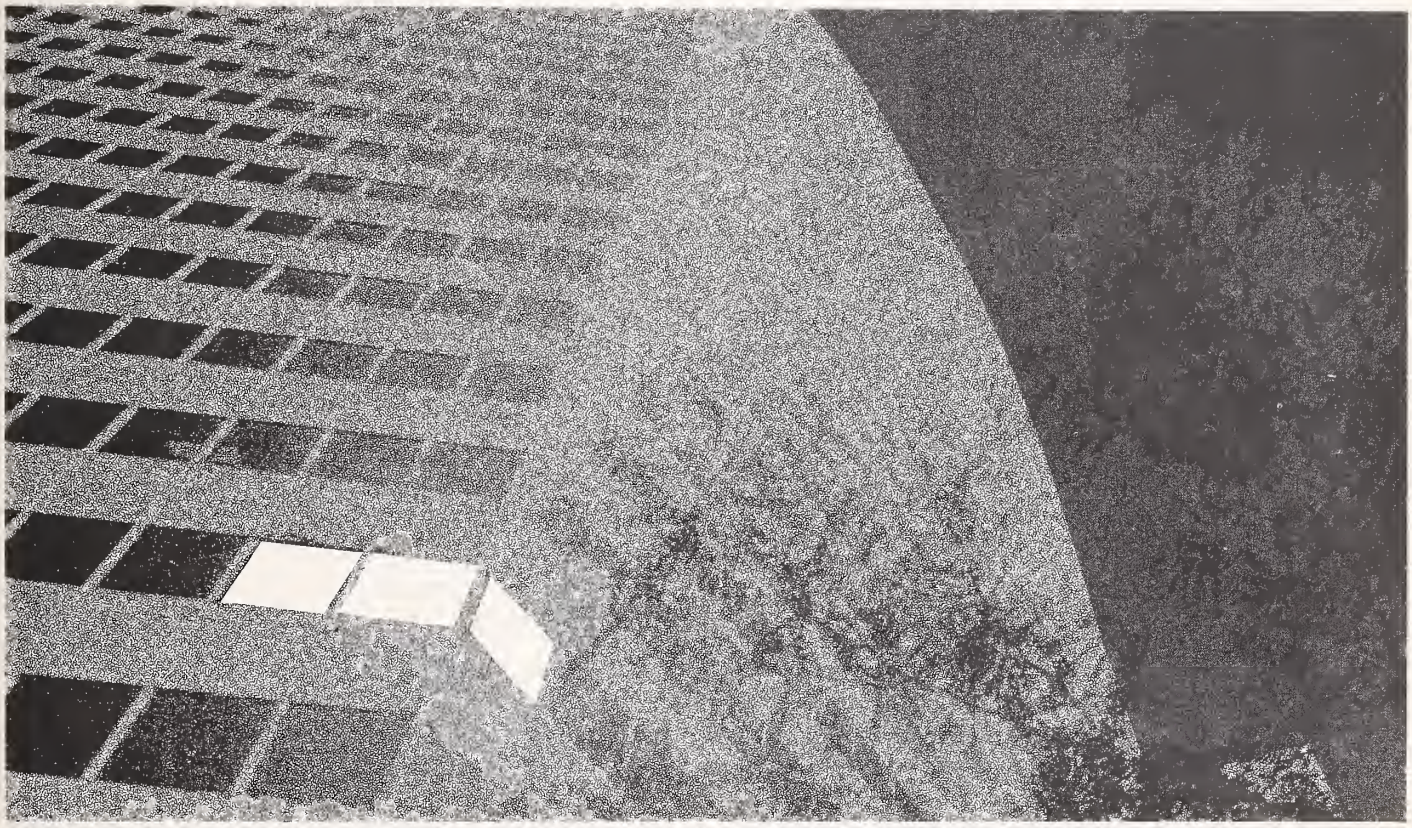
IOWA INFLUENCE

The Iowa studies greatly influenced blood banking and came at a time when reliable data were badly needed. All credit must be given Dr. DeGowin for careful and systematic performance of experiments and careful reporting of results. These were translated to the orderly development of both civilian and military transfusion services. Today such services comprise many components unknown to the blood banks of the 1940's but, nonetheless, these too rest firmly on the fundamental principles laid down in those early days.

REFERENCES

The references noted in this paper are available on request either from the JOURNAL OF THE IOWA MEDICAL SOCIETY or from the author.

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Rupture of the Diaphragm In a Wrestling Match

DONALD L. McCORMACK and
WILLIAM R. BLISS, M.D.
Ames, Iowa

Rupture of the diaphragm need not be associated with noticeable trauma. The weakness may be present for years without indication. The supposition in this case report is that minor trauma may have caused the rupture.

TRAUMATIC RUPTURE of the diaphragm is most commonly associated with penetrating wounds or severe blunt external trauma. It occurs frequently in vehicular accidents and falls from heights. Several authors, however, have reported cases of diaphragmatic rupture caused by less severe blunt trauma and presumably weaker forces.[1, 2, 3] The injury in the case described was sustained during a wrestling match and went unnoticed by the patient.

CASE REPORT

A 17-year-old male was admitted to the hospital with a chief complaint of left upper quadrant abdominal pain. The patient had been in good health until 24 hours prior to admission when he participated in a wrestling meet. During the third 2-minute period he noticed the sudden onset of left upper quadrant pain accompanied by marked shortness of breath. This pain was not incapacitating, however, and he was able to finish the period. The patient denied being thrown violently to the mat or receiving a blow to the thoracoabdominal region. Despite taking acetamenophen with codeine in standard doses, the pain and shortness of breath increased gradually throughout the night and following day to the point that he was unable to lie down. All food and liquid taken throughout the day were vomited with extreme pain.

The patient's past history was unremarkable. There were no previous injuries, surgeries or chest x-rays.

Physical examination revealed a temperature of 98.6°F, pulse of 72 beats per minute, and blood pressure of 148/80 mm Hg. Respirations were shallow at 24/minute. There were decreased breath sounds in the left lower lung field posteriorly. Bowel sounds were present in the left anterior chest. The abdomen was soft and bowel sounds were active.

Laboratory data revealed: hemoglobin 16.2 gram/dl, hematocrit 47.2%, and white blood cell count 10,900/mm^3 with 81% neutrophils and 16% lymphocytes. Creatine phosphokinase was 585 Iu/l (normal = 100-225 Iu/l). These enzymes were elevated presumably as a result of injury.

A chest film showed an elevated left hemidiaphragm with a loop of colon extending upward into the left chest cavity to the level of the eighth interspace posteriorly. The wall between the lumen of the colon and the lung was less than one millimeter thick, suggesting that there was no diaphragm covering this area of colon. No pleural fluid or pleural infiltrate was identified. (See Figures 1a-1b.)

This paper is furnished by the McFarland Clinic in Ames. Dr. Bliss is a senior member of the Clinic, specializing in general, thoracic and vascular surgery. Mr. McCormack is a medical student.

OPERATIVE FINDINGS

The left chest was entered through the eighth interspace. A large loop of transverse colon still associated with the omentum was found protruding through a lateral opening in the diaphragm at the junction of the diaphragm with the parietal peritoneum posteriorly. Palpation of the spleen and upper pole of the left kidney revealed no evidence of injury to these organs. The edges of the defect in the diaphragm were closed with interrupted single-0 silk sutures. A chest tube was placed into the cavity through the ninth interspace and the chest was closed.

Postoperative films were negative with the exception of left lower lobe atelectasis which cleared within 48 hours. A chest film taken 6 months later was negative with a smooth, uninterrupted diaphragmatic arch.

DISCUSSION

Rupture of the diaphragm, when not caused by penetrating trauma such as a knife or bullet wound, is most commonly associated with crushing or high velocity forces such as those occurring in automobile accidents or falls from heights. Although nearly all previously reported diaphragmatic ruptures have been associated with specific traumatic episodes, some authors have reported cases caused by less severe forces.[1, 2, 3] The present case illustrates that this type of injury can occur in the absence of noticeable trauma.

In the present case the possibility of a congenital weakness in the area of the foramen of Bochdalek can not be ignored. Unusual activity during the wrestling match may have aggravated and enlarged a previously existing defect in the diaphragm. This seems unlikely, however, as the patient had been wrestling and participating in other sports for several years.

Andrus and Morton[5] found that the most likely mechanism for disruption of the diaphragm is transmission of force through the abdominal viscera to the diaphragm. The diaphragm is under constant stress from positive abdominal pressure and negative thoracic pressure. The pleuroperitoneal pressure gradient produced with inspiration varies during quiet respiration from 7 to 20 cm H_2O and can exceed 100 cm H_2O with maximal inspiration.[2, 5] This pressure gradient explains why herniation into the thorax often occurs in asso-

(Please turn to page 408)



Figure 1a



Figure 1b

Figures 1a and 1b are PA and lateral films demonstrating the diaphragmatic rupture. The arrows are drawn to the edge of the dilated colon. There is no evidence of any peritoneal sac about the colon.

Do These Symptoms Sound Familiar?

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ciation with diaphragmatic rupture. Any force, such as blunt external trauma, which increases the pleuroperitoneal pressure gradient will thrust the diaphragm toward the thorax. If the force is great enough, the diaphragm can rupture where it is weakest or where it is least protected by other organs.

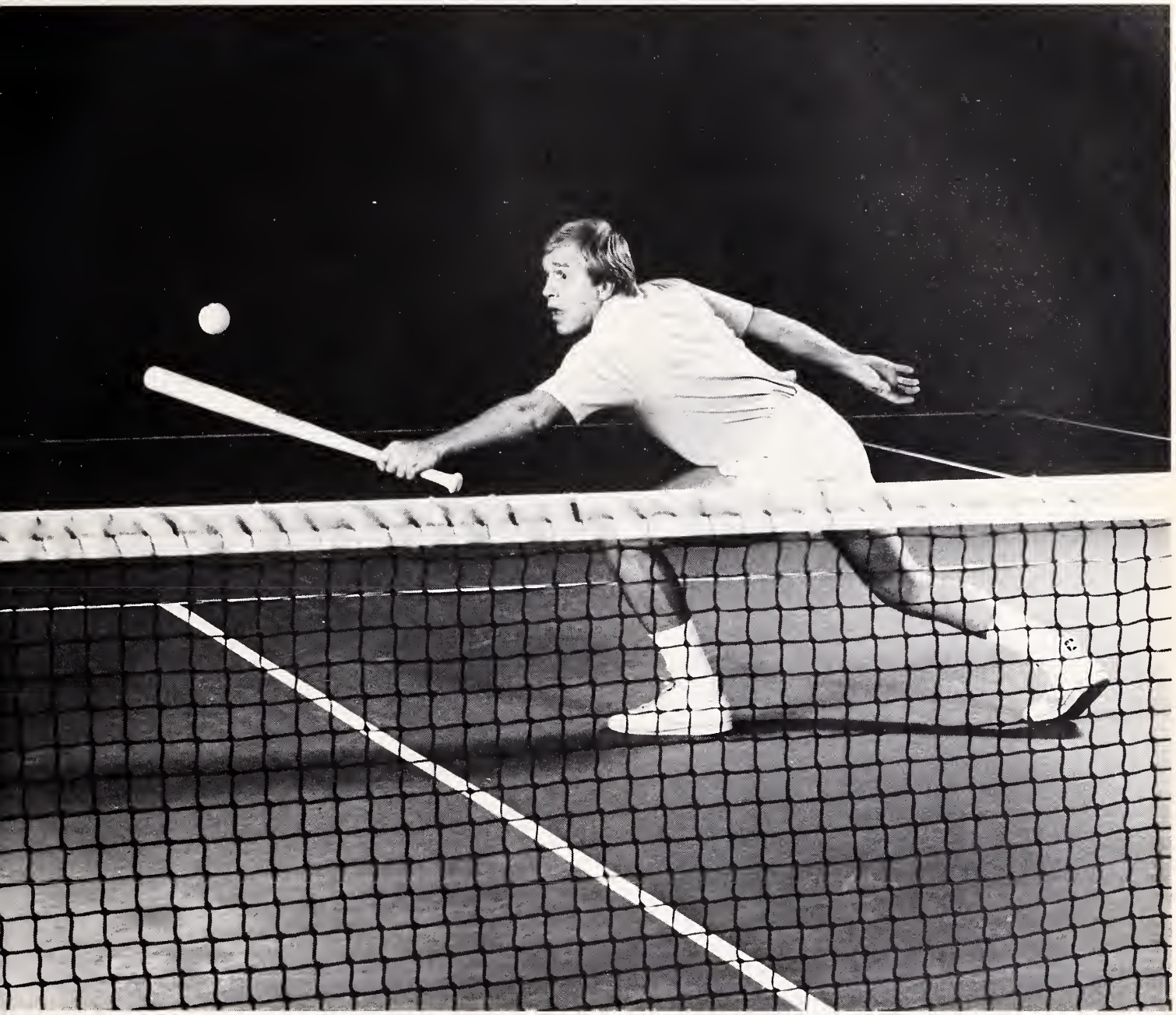
Buffering action above the diaphragm is provided by the heart, pericardium and the base of the lung lying adjacent to the superior surface of the diaphragm. The protective effect of the lungs varies directly with their air pressure, and the maintenance of intrapulmonic pressure depends on whether the glottis is open or closed. The protective functions of the liver and kidney to the right dome of the diaphragm are well documented by the low incidence of traumatic ruptures on the right side; only 5% of diaphragmatic ruptures occur on the right. The left lobe of the liver, the stomach, the spleen and the left kidney afford a less effective buffer against rupture of the left side.[2]

Ruptures secondary to trauma most commonly occur in the posterolateral region of the left diaphragm or in the area of the central tendon. The posterolateral region coincides with the site of the embryological pleuroperitoneal canals or the foramen of Bochdalek.[4] Defective formation and/or fusion of the pleuroperitoneal membranes in utero may explain the weakness in this part of the diaphragm. Alternatively, fat-filled separations of 2 to 3 millimeters between the radially disposed muscles of the left leaf of the diaphragm may account for this weakness.[5] Rupture may also occur along the vessels which cross the central tendon or along a branch of the phrenic nerve.[5]

The case described above demonstrates that rupture of the diaphragm need not be associated with noticeable trauma. Weakness of the diaphragm may be present for years without clinical symptoms or signs. Minor trauma may be all that is necessary to cause rupture at these weak points. This injury should always be considered when treating patients who have sustained thoracoabdominal trauma regardless of the severity.

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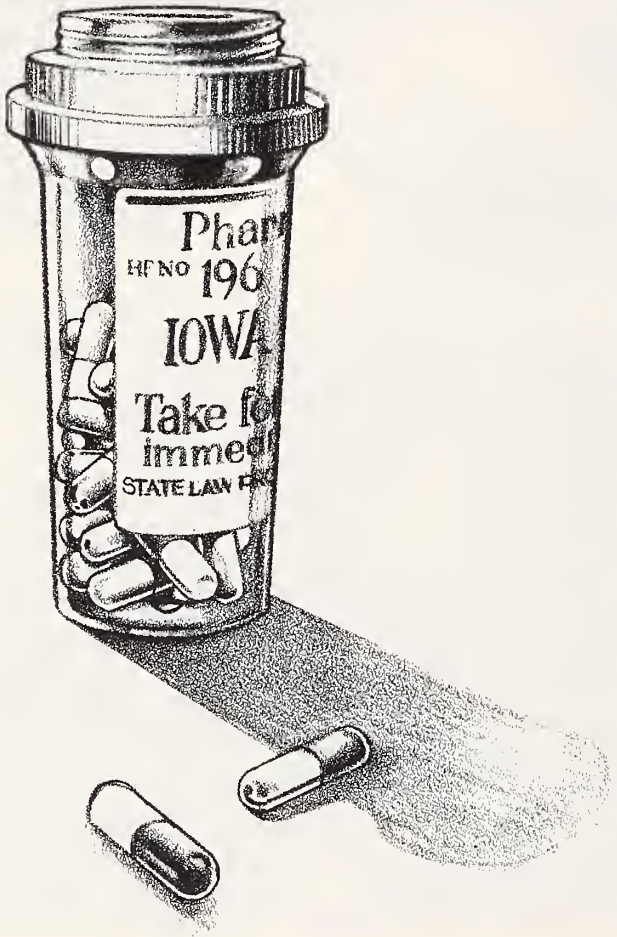
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House File 196: A cure-all for Iowa's ailing health care system?



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Part of this new act calls for a change in the make-up of the Boards of Directors of Blue Cross and Blue Shield of Iowa. An interim legislative committee recommended a simple majority of subscribers. The general assembly, however, mandated a two-thirds subscriber majority, plus some very specific nominating provisos.

(Iowa physicians will be able to nominate by petition subscribers who sit on our Boards, and will continue to nominate and elect their peers who will comprise the remaining one-third of our Boards.)

House File 196 is strong medicine. And although we believe portions of the law can help effect a cure in Iowa, it is not a cure-all.

Of course, we shall comply.

We shall also strive to maintain our positive and progressive relationships with Iowa's physicians, and to achieve our common goal — that of providing quality health care at affordable cost for all Iowans.

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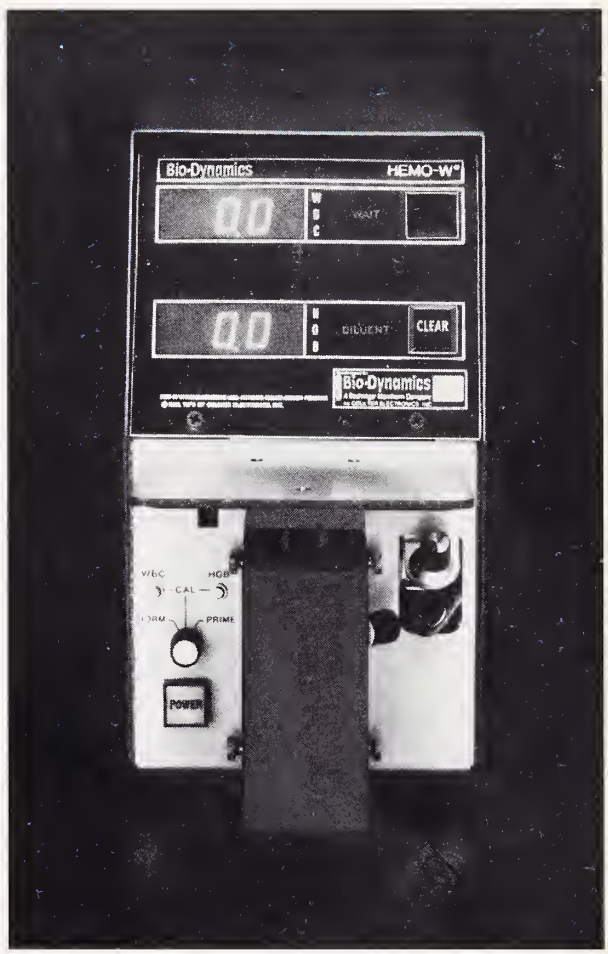
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In vitro studies demonstrate

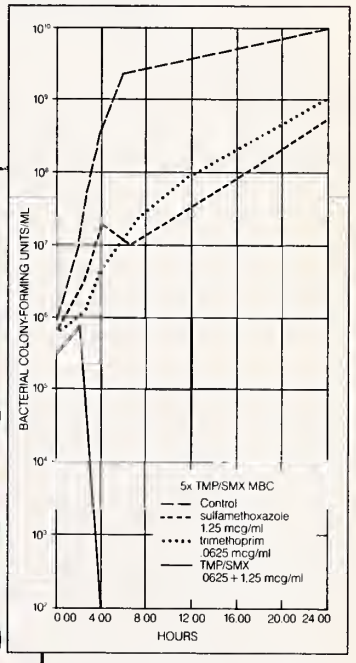
Bactericidal activity with minimal resistance

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials

	Escherichia coli	*Klebsiella pneumoniae*	*Proteus mirabilis*	*Proteus vulgaris*	*Proteus* sp.	*Enterobacter* sp.	*Enterobacter aerogenes*	*Enterobacter cloacae*
BACTRIM	**96%** 328,598	**89%** 63,551	**93%** 62,691	**84%** 4174	**91%** 4381	**88%** 1736	**96%** 7326	**92%** 11,856
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofurantoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI* *



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro.*[1]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro.** Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

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Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. *Pregnancy:* Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

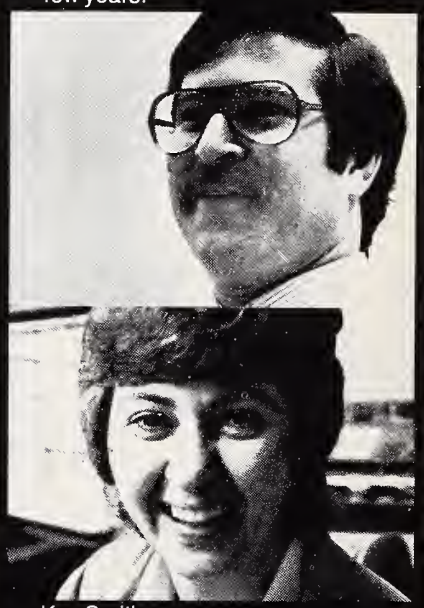
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COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

SICK ADVERTISING

A RECENT ADVERTISEMENT announcing the opening of a neighborhood emergency clinic in West Des Moines appealed to Flo's stubbed toe, Dwayne's ankle sprain, and Russell's pulled muscle. A play on words it was, to be sure, but hardly appropriate to our profession. Several colleague physicians were discussing the advertisement, and some of them suggested additional rhymes which cannot be printed in this JOURNAL.

Walk-in clinics are new retailing outlets designed for convenient and quick medical care. They are opening throughout Iowa in shopping centers, and as freestanding clinics in various sites. They are sponsored by hospitals and other entities. The public appears receptive to varying degrees. There are some who view them as great; others still prefer their close relationship with a personal physician. Some use the clinics as an off-hour convenience to spare their own physician.

All comments aside about the desirability of these clinics, my primary concern is their principles of promotion. We hope they do not cheapen the noble practice of medicine through catch phrases, sensationalism or some of the ridiculous methods used to promote consumer goods. There is no doubt that medical practices in some areas have become more competitive. The public may, for a while, relish that. I am sure, however, that eventually our patients will be wise enough to realize that health care is too personal and valuable to be degraded to immature unprofessional advertising. — M.E.A.

QUESTIONS-ANSWERS

(Continued from page 395)

cians, as a general rule, appreciate knowing of such potential problems and frequently make adjustments in drug therapy.

Since I know of no in-depth study which has been done on the practice of "assistant dispensing," I can only speculate as to the number of errors and problems which have occurred. We can, however, point to numerous studies which have documented the value of a meaningful physician-pharmacist check and balance system.

Substantial progress has been made to assure the proper labeling and recording of prescriptions provided by physicians. Would you agree that this has been a positive action?

Yes, and I commend both the Iowa Medical Society and the Iowa Board of Medical Examiners for their efforts in this area. Packaging and labeling standards are of critical importance to both the maintenance of drug product quality and the appropriateness of drug use. While we have not yet achieved the goal of eliminating paper envelopes, pill boxes and sketchy labeling information, substantial progress is being made. We commend the medical profession on their positive response to a serious problem.

What other matters now before pharmacy are mutually important to medicine and worthy of brief notation?

A host of issues including HMOs, PPOs, patient drug information programs, diversion of controlled substances, therapeutic and pharmaceutical alternates, and drug sampling currently confront both professions.

More significant, however, is the current interest in health care cost containment. Health care costs must be held down, but not at the expense of quality care. While I believe that medicine and pharmacy should work together to improve efficiency and cost effectiveness, we must also convince consumer groups, state government and the general public that "short cuts" in health care delivery will only serve to increase costs in the long run. In working to maintain high standards of medical and pharmaceutical care, we must grow to understand and respect each other's expertise. One thing is clear — neither of us can go it alone.



OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

ARCHITECTURE AND COMPREHENSIVE EXAMINATIONS

RECENTLY, strolling through the central part of the University campus, I noticed that many of the "old" buildings were adorned with the names of famous individuals carved in the stone. All such buildings were designed in the classical tradition of Greek temples, including pillars and all that goes with them. I then realized that all the "newer" campus buildings — whether constructed of brick, or of concrete and glass that make them resemble a keypunch data card — have no such adornment. For example, the top of the building that had long been the home of the physics and mathematics departments displayed such names as Archimedes, Euclid, Galileo, Copernicus, Newton and Faraday. On one of the buildings which contains liberal arts classrooms appear the names Plato, Dante, Milton, Shakespeare, etc. I suspect you probably saw the same thing at your University.

But along with the exceedingly familiar names there were a few that were not as well known to me, for example, Huygens on the math building, and I admit that some names I didn't recognize at all. That suggested to me a certain deficiency in my "general" education. That in turn suggested that a college, perhaps before granting a student the baccalaureate degree, might give a comprehensive examination containing questions about the identity, contributions, and short-and-long-range impact of all those lustrous persons whose names grace the campus buildings. Even if the building displays the name of a former University president, I submit that if your school feels the contribution of that person was sufficiently great to warrant his or her name being used to identify a building, that's reason enough to ask the graduates to identify that person. The test could have either multiple choice or essay items, or both. I argue that one's education ought to include a consciousness of one's cultural and intellectual roots. One way to attain that is through the life stories of individuals who have made major contributions, and the relation of those persons to the societies in which they lived. This could be a variant of a "great books curriculum."

Perhaps the list of names should relate to the student's major, that is, a chemistry major should identify Lavosier, but wouldn't be expected to recognize the name of, or know anything about, Beethoven or Darwin? For the undergraduate level, I would say definitely no. Of course, if a campus is architecturally of a "new" fashion, such as Spanish colonial or Bauhaus modern, then the idea washes out.

Could something similar be done in medical education? If the idea has any attractiveness at all, then which 10 names would you inscribe on a building or use on an examination? I'm willing to limit the names to Western civilization and am even willing to give you Hippocrates as a starting point. From there on, you're on your own.

Two things are at issue here — first, whether it is appropriate to expect physicians to be acquainted with the truly major figures of their professional discipline stretching back to antiquity, and second, which specific people (which means there must be criteria for judging). To make your task even easier, I'll set a modern cutoff date of 1900. It's hard to prune to 10, isn't it? If you wish, add a few extra names that you think suitable for your own specialty since approximately 1875.

If you want to compile your own list of the "top ten" for medicine through 1900 and compare it with mine, turn this page upside down and read my choices. Of course, in order for you to get full "credit" for each entry on your list you would be able to give the approximate dates of the individual and what she/he did to warrant this honor.

Hippocrates, Galen, Avicenna, Vesalius, Harvey, Morgagni, Sydenham, Boerhaave, John Hunter, Pasteur.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

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Yet another benefit Valium affords is flexibility. Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules, knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

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For a summary of product information, please turn the page.

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Injectable Valium® (diazepam/Roche) Ⓝ

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> *Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects — particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg daily when 5 mg oral Valium has been determined as the optimal daily dose (no for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets — 2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules — 15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

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DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

ROBERT J. ROBERTS, M.D., Editor

CAPTOPRIL

CAPTOPRIL (D-3-mercapto-2-methylpropionyl-L-proline [SQ 14,225, Capoten]) is the first orally active, specific, and potent competitive inhibitor of angiotensin-converting enzyme (ACE) having a unique site of action. Because of some of its adverse effects and the relatively brief experience with the drug, the FDA-approved uses are limited to hypertension resistant to multiple conventional drugs or for patients in whom these agents produce intolerable side effects. Studies have been done on the use of captopril in congestive failure (CHF) and approval for this use may be obtained in the future.

CLINICAL USE AND EVIDENCE OF UTILITY

A number of uncontrolled as well as placebo-controlled studies have shown that blood pressure is reduced in most patients receiving captopril including those patients with mild, moderate or severe essential hypertension as well as in patients with "high" renin levels.[1-3] In severe hypertension, captopril administration does not usually normalize blood pressure, but it is useful in combination with diuretics and/or beta blockers. In mild to moderate hypertension, it is probably no more effective than other first- or second-step drugs (diuretics, beta blockers, prazosin, etc.), and its efficacy is improved when used in combination with these drugs.[1-3]

Captopril lacks effects on the central nervous system or on sexual function. Sodium and water retention do not occur and there also appears to be little or no effect on blood glucose, uric acid, plasma lipids, or liver enzymes. In a few patients, blood pressure falls precipitously with the first few doses but then rebounds to near basal states.[4] In these patients continued administration of the drug then results in a more gradual and sustained decrease in blood pressure.

Patients with malignant or renovascular hypertension (high renin states) usually respond extremely well to captopril; however, in our view, other parenteral agents should be used as initial treatment in malignant hypertension. It is difficult to predict a dose response effect in a single patient. Plasma renin levels are not well correlated with long-term blood pressure response although they probably are related to initial response.[3, 4] The duration, but not the magnitude of blood pressure decline, appears to be dose dependent. Duration of action can be up to 12 hours. There is evidence to suggest that 150 mg or less is a maximum effective dose for a hypertensive patient, although the maximum approved dose is 450 mg/day. Captopril treatment can be initiated as an outpatient; however, its use in the volume-contracted, sodium-restricted patient or in patients with renal failure or refractory congestive heart failure may be hazardous since marked hypotension with the first few doses may occur. In these circumstances, a low initial dose (6.25 or 12.5 mg) may be desirable.

Many studies suggest that captopril is useful in patients with congestive heart failure giving acute and sustained clinical and laboratory improvement and increased performance on exercise tests.[5, 6] Captopril has been effective in severe CHF refractory to conventional therapy including vasodilators probably because of blockade of angiotensin formation. In this circumstance, however, profound hypotension can occur and initial doses should be limited to

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6.25 mg. Although converting enzyme inhibition in severe refractory CHF has shown immediate and sustained effectiveness, its role in treatment of mild to moderate CHF remains to be determined.

OTHER USES

Captopril has been utilized in scleroderma to control blood pressure, aid in improving renal function, and in an attempt to heal digital ulcers. It may be useful in increasing diagnostic accuracy of renal vein renin determinations in patients with renal artery stenosis. It has not been found to be particularly useful in the treatment of ascites.

CLINICAL PHARMACOLOGY, HEMODYNAMIC, AND RENAL EFFECTS

Captopril is rapidly absorbed (75%) from the gastrointestinal tract in the fasting patient with the onset of hypotensive effect as early as 15 minutes; maximum antihypertensive effects and peak blood levels occur at 30 to 90 minutes.[7] Food reduces absorption by 30 to 40%. Although captopril is 30% protein bound in blood, it is distributed rapidly to most tissues, except the central nervous system. The drug is rapidly metabolized and the half-life of unchanged captopril is probably less than two hours. *Renal excretion* is rapid with 50% appearing in the urine within four hours and over 95% within 24 hours. Forty to 50% is unmetabolized drug. Captopril is dializable. *The dose must be reduced when renal function is impaired* as the elimination of captopril and its metabolites correlates closely with the creatinine clearance.

Captopril lowers peripheral systemic resistance primarily because of its blockade of angiotensin II formation both acutely and chronically. Heart rate is generally unchanged, but cardiac output may be improved mainly due to decreased afterload and improved myocardial contractility secondary to coronary artery dilitation. These changes, in combination, reduce blood pressure and suggest that both arteriolar and venous dilitation may occur. Direct evidence in favor of systemic venodilation has been reported in normotensive patients with heart failure. The ratio of cardiopulmonary to total blood volume is reduced suggesting peripheral redistribution of intravascular volume. Renal vascular resistance is reduced, renal blood flow increases, and glomerular filtration rate (GFR) usually is well maintained. These effects generally result in maintenance or improvement in renal function in most patients with hypertension or CHF. *HOWEVER*, its use in the presence of significant bilateral renal artery stenosis or in unilateral stenosis with a single kidney has resulted in *acute renal failure* presumably because perfusion pressure falls and autoregulation of GFR is blocked by captopril.[9]

MECHANISM OF ACTION

Captopril blocks the formation of angiotensin II from angiotensin I. It also inhibits kininogenase II, an enzyme which inactivates bradykinin. Since the negative feedback of angiotensin II on renin release is blocked, plasma renin activity increases at the same time that plasma angiotensin II, converting enzyme *activity*, and plasma aldosterone falls. These hormonal changes should and probably do result in decreased angiotensin-induced vasoconstriction and less renal sodium retention. Prostaglandin metabolism and bradykinin metabolism may also be affected. Because of the effects on aldosterone, K^+ retention occurs and plasma potassium tends to increase. In the presence of renal insufficiency, and/or when used with agents tending to increase serum K^+, *sustained or even life-threatening hyperkalemia* may result.[10]

ADVERSE EFFECTS

Rash or pruritis (14%), taste impairment (7%), proteinuria >1 gm/day (1.2%), and neutropenia (7.2% of patients with autoimmune disease and serum Cr >2.0 mg%; 0.4% of patients with serum Cr >2.0 mg%; and 0.02% others) occur. Hypotension (1-2%) and GI disturbances (2-4%) have been reported. The incidence of hyperkalemia and acute renal failure are not known. A maculopapular or morbilliform rash, the most frequent side effect, sometimes associated with pruritis, fever, and eosinophilia, usually appears in the first two weeks after starting therapy or increasing the dose. It may disappear with reduction or discontinuation of the drug or spontaneously. Acute renal failure has been reported as part of this symptom complex. Rare cases of captopril-related pemphigus, apthous ulcers, and angioedema have been reported as has membranous glomerulonephritis and nephrotic syndrome.

DOSE

The drug should be administered to fasting

patients and the dosage titrated. Initial doses should be small (12.5-25 mg/TID) in hypertensives and as low as 12.5 mg in patients with severe CHF. Increases in dose may be made at one- to two-week intervals to a maximum dose of 150 mg/TID. Captopril is not thought to be teratogenic, but it did increase fetal loss in rabbits.

COST

One hundred 25 mg tablets are approximately $20.

MINIMAL USE

Captopril is useful as an antihypertensive drug in the patient with resistant hypertension and in nonazotemic hypertensive patients with glucose intolerance or gout. Although it has few of the side effects usually associated with other antihypertensives, its cost and side effects of dysgeusia, skin rash, neutropenia, renal failure, and hyperkalemia limit its application. Captopril may be useful in refractory heart failure, although probably not as a first-line drug since both cost and side effects are limiting. The drug should not be used in pregnancy or in nursing mothers if other alternatives are available. In any case, treatment should be initiated cautiously and serum K^+, Cr, and WBC should be monitored frequently especially in patients with impaired renal function, immune disorders, or severe illness. — *Matthew Hanna, M.D., Fellow, and Annette Fitz, M.D., Professor, Division of Renal Disease Hypertension and Electrolyte Metabolism, Department of Internal Medicine.*

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STATE DEPARTMENT/ PUBLIC HEALTH

LEGISLATIVE EFFECTS ON GENETIC SERVICE PROGRAMS

RECENT ACTION by the Iowa General Assembly will have a far-reaching effect on the two service programs operated by the Birth Defects Institute of the Iowa State Department of Health.

On April 21, 1983 Governor Branstad signed legislation to change significantly the Iowa newborn screening program. This legislation gives the Birth Defects Institute authority (1) to establish the policy for the testing of all Iowa newborns and (2) to designate a central laboratory for this testing. Administrative rules to implement this newly passed legislation were adopted by the Board of Health on July 13, 1983.

Following are the rules covering this state activity.

CHAPTER 4
NEWBORN SCREENING — CENTRAL LABORATORY

470 — 4.1(136A) *Newborn screening policy*. It shall be the policy of the state of Iowa that all newborns shall be tested for hypothyroidism, phenylketonuria (PKU), galactosemia, and branched chain ketoacidemia (MSUD).

470 — 4.2(136A) *Physician responsibility*. The attending physician shall have the responsibility for assuring that infants under their care are screened. Parents or guardians shall be informed of the type of specimen, how it is obtained, the nature of the diseases being screened, and the consequences of treatment and non-treatment. Should a parent refuse the test, said refusal shall be documented in writing and will become a part of the medical record.

470 — 4.3(136A) *Time sequence for screening tests*. The specimen (blood) shall be drawn from the infant at least 72 hours after birth, but not later than 5 days after birth. In any event, screening should be done prior to discharge. A second test shall be performed by 14 days of age when:

1. The first test was done prior to 72 hours after birth.

2. The first test was done while the infant was on antibiotic therapy. The second test should be done at least 48 hours after the infant is off antibiotic therapy.

All specimens shall be forwarded by first class mail, or other appropriate means, to the central laboratory within 24 hours after collection.

470 — 4.4(136A) *Unattended birth*. The local registrar shall inform the parents or guardians, when a certificate of birth is filed, of the need for a blood test for hereditary metabolic disorders when the birth is not attended by a physician. The registrar shall also inform parents or guardians where the blood test may be done.

470 — 4.5(136A) *Central laboratory*. Specimens shall be submitted to the central laboratory designated by the birth defects institute.

4.5(1) The central laboratory shall test specimens within 24 hours of receipt. The central laboratory shall employ a mechanism that ensures retesting of all inappropriate specimens.

4.5(2) Reports of presumptive positive results are made immediately by telephone to the attending physician and the metabolic screening program of the birth defects institute. This report is to be followed within 24 hours by confirmatory letters to the attending physician, birthing facility, and a copy to the birth defects institute.

4.5(3) The central laboratory shall make educational services concerning specimen collection procedures available to hospitals and other birthing facilities.

4.5(4) The central laboratory shall submit required reports to the birth defects institute. Those reports shall include:

a. Monthly activity report.

(1) Number of infants tested by hospital or birthing facility.

(2) Number of repeat tests by hospital or birthing facility.

(3) Number of presumptive positive results by test.

(4) Number of confirmed positive results by test.

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b. Quarterly fiscal report identifying all expenditures and revenues.

c. Annual report detailing screening activity, fiscal accounting and educational activity.

Sixty days prior to the end of the fiscal year the central laboratory shall submit a program proposal to the birth defects institute for the coming year.

4.5(5) A consulting physician shall be designated by the birth defects institute in collaboration with the central laboratory to provide interpretation of test results and consultation to attending physicians.

4.5(6) The central laboratory shall have available for review a written quality assurance program covering all aspects of its newborn screening activity.

4.5(7) The central laboratory shall distribute specimen collection forms and other materials to hospitals and other birthing facilities as required.

4.5(8) The central laboratory shall act as fiscal agent for program charges. The charges will encompass analytical, technical, administrative, educational, and follow-up costs which include the costs of the consulting physician referred to in 4.5(5).

The University Hygienic Laboratory, University of Iowa, was designated as the central laboratory after a review and evaluation of proposals submitted in response to a request for proposal. The rules and regulations are effective, and only this laboratory is certified to offer the required services to all infants born in *Iowa*. All test specimens must be submitted on authorized collection forms to the University Hygienic Laboratory, Wallace Building, Des Moines, Iowa 50319 (515/281-5371).

Legislative action this past session will also have a major impact on the Regional Genetic Consultation Service. The Legislature has mandated that a fee be charged patients attending genetic counseling clinics. That portion of the service charge a family will be expected to pay will be determined by its size and annual income. A sliding fee scale will be established based on federal government poverty guidelines. Families with income below 150% of the poverty level will not be charged for service. Families with income between 150% and 250% of the poverty level will be charged on a sliding fee scale. Unusual circumstances such as unemployment or catastrophic costs will be considered as justification for an exemption from the service charge. No patient will be denied service because of an inability to pay.



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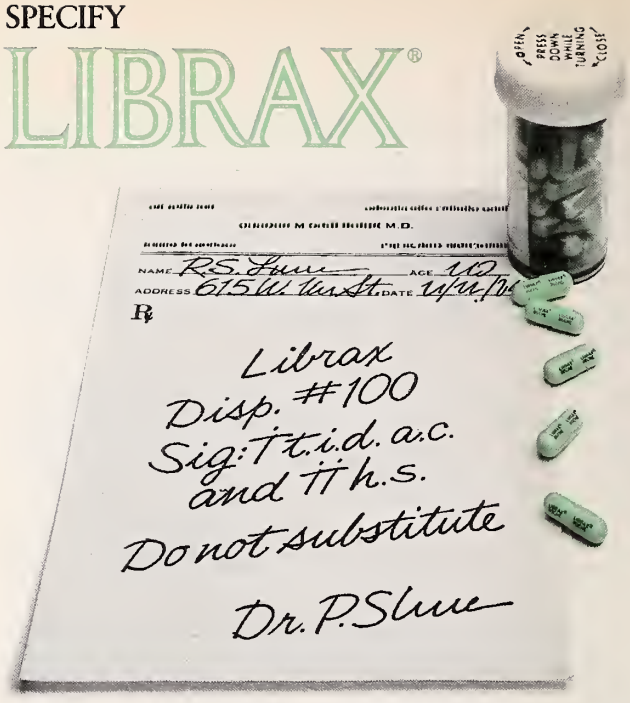
August 1983 Morbidity Report

Diseose	Aug. 1983 Totol	1983 to Dote	1982 to Date	Most Aug. Cases Reported From These Counties
Amebiosis	0	32	53	
Brucellosis	0	1	3	
Chickenpox	0	5514	5853	
Compylobocter	41	244	207	Scattered
Cytomegolovirus	0	7	33	
Eaton's Agent infection	0	100	168	
Encepholitis, virol	7	34	21	Cerro Gordo, Crowford, Polk, Pottowottomie, Winneshiek
Erythemo infectiosum	0	25	246	
Gostroenteritis (GIV)	8	8545	7998	Block Howk, Johnson
Giordiosis	51	146	89	Scottered
Hepotitis, A	2	20	54	Mohoska, O'Brien
Hepatitis, B	2	54	66	Linn, Scott
Hepotitis, Non A-B	4	30	10	Cloyton, Fayette, Muscotine
Hepatitis type unspecified	1	8	22	Tomo
Herpes Simplex	89	678	272	Scottered
Herpes Zoster	0	6	10	
Histoplasmosis	0	12	14	
Infectious mononucleosis	0	120	127	
Influenzo, lab confirmed	0	207	74	
Influenzo-like illness (URI)	243	28707	27485	Scottered
Legionellosis	1	5	18	Polk
Molaria	0	3	6	
Meningitis aseptic	31	71	37	Scottered
bacteriol	14	113	114	Scottered
meningococcol	0	14	5	
Mumps	0	35	30	
Pertussis	0	5	5	
Robies in onimals	12	161	288	Scottered
Reye Syndrome	0	2	5	
Rheumotic Fever	0	1	3	
Rubello (Germon measles)	0	0	0	
Meosles	0	0	0	
Solmonellosis	40	195	201	Scottered
Shigellosis	12	31	40	Scattered
Toxic Shock Syndrome	0	14	16	
Tuberculosis totol ill	4	47	54	Jasper, Poweshiek, Story, Wopello
boct. pos.	2	33	39	Poweshiek, Story
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Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium bromide

Please consult complete prescribing information, a summary of which follows:

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Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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ABOUT IOWA PHYSICIANS

NEW IOWA DOCTORS

Dr. Daniel P. Congreve recently started work with the Davenport Surgical Group. Dr. Congreve received the M.D. degree at the University of Illinois School of Medicine and completed a general surgery residency at the University of Illinois Metropolitan Group Hospital in Chicago. . . . **Dr. Douglas Beal** recently joined the Pediatric and Adolescent Clinic in Mason City. Dr. Beal received the M.D. degree at the University of Health Sciences/The Chicago Medical School and completed a pediatric residency at the U. of I. College of Medicine. Dr. Beal is a junior fellow of the American Academy of Pediatrics and in 1980 received the Pediatric Clerkship Award. . . . **Dr. Thomas C. Buchanan** recently joined the Fort Dodge Medical Center. Dr. Buchanan received the M.D. degree at Tulane University School of Medicine and completed an orthopedic surgery residency at Tulane University Affiliated Hospitals. Prior to locating in Iowa, he was chief orthopedic resident at the VA Hospital in New Orleans. . . . **Dr. Pierre Thibault** recently began family practice in Nevada. Dr. Thibault received the M.D. degree at the University of Montreal and interned at St. Luc Hospital in Montreal, Canada. He practiced family practice previously in Joliette, a suburb of Montreal.

Dr. Douglas M. Duven recently joined the general surgery staff of Surgical and Orthopaedic Associates, P.C. in Waterloo. A native of Newton, Dr. Duven received the M.D. degree at the University of Nebraska and completed a general surgery residency there. . . .

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Dr. Mark Constance recently joined **Drs. Clifford Rask** and **Gerald Bybee** at the Maquoketa Clinic. Dr. Constance received the M.D. degree at the U. of I. and completed a family practice residency in Lincoln, Nebraska. . . . **Dr. Guy Bernard** and **Dr. Renald Bernard,** both natives of Quebec, Canada, recently began family practice in Webster City. Both physicains received their M.D. degrees at Laval University and interned at Quebec City.

Dr. Terence Mealman and **Dr. John Stamler** recently began family practice at the Rural Family Practice Clinic in Reinbeck. Dr. Mealman received the M.D. degree at Washington University in St. Louis and did postgraduate work at St. Luke's Hospital in Kansas City. Dr. Stamler received the M.D. degree at the U. of I. and took postgraduate work at Mercy Hospital and Medical Center in San Diego, California. . . . **Dr. James D. Oggel** recently opened an office in Sioux City for the practice of allergy-immunology, asthma, and related diseases. Dr. Oggel received the M.D. degree at the University of Nebraska and completed a pediatric

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residency there. Following two years in the Navy, he practiced pediatrics in St. Cloud, Minnesota. He served a two-year fellowship in adult and pediatric allergic diseases at Kansas University Medical Center, Kansas City, Kansas and Children's Mercy Hospital affiliated with the University of Missouri School of Medicine in Kansas City, Missouri. . . . **Dr. David M. Craven** recently began a private pediatrics practice in Ames. Dr. Craven received the M.D. degree at the U. of I. College and completed his pediatric residency at Children's Mercy Hospital in Kansas City, Missouri.

DEATHS

Dr. Frank M. Hudson, 62, Des Moines, died August 7 of injuries suffered in a one-car accident near Missouri Valley. Dr. Hudson received the M.D. degree at Northwestern University Medical School; interned at Passavant Memorial Hospital in Chicago and completed his neurosurgery residency at Presbyterian Hospital in New York City.

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FEE: $285 (educational program). Approximately: $1,378 per physician/$324 per accompanying spouse or child (includes round-trip flight, ground transportation and accommodations for seven nights)
AUDIENCE: Primary care physicians and physicians who are involved in the care of arthritic patients
FACULTY: From the University of Minnesota and the Mayo Clinic
CONTENT: Common rheumatologic problems, diagnosis, treatment and the course of the disease
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Dr. John J. Lesiak, 66, Titonka, died August 6 at his home. Dr. Lesiak received the M.D. degree at Creighton University School of Medicine in Omaha. Prior to locating in Titonka in 1955, Dr. Lesiak practiced medicine in Sumner and Buffalo Center.

Dr. Clarence J. Goebel, 82, Sioux City, died August 21 at his home. Dr. Goebel received the M.D. degree at Creighton University School of Medicine in Omaha and interned at St. Joseph Mercy Hospital in Sioux City. He began medical practice in Sioux City in 1946, retiring in 1970.

Dr. Robley R. Goad, 83, Muscatine, died August 18 at Muscatine General Hospital. Dr. Goad received the M.D. degree at the Medical College of Virginia. He took postgraduate work in ophthalmology at the U. of I. and in otolaryngology at Episcopal Hospital in Washington, D. C. He practiced medicine in Muscatine from 1930 until his retirement in 1978. Dr. Goad was a member of the American Academy of Ophthalmology and Otolaryngology and a 65-year member of the American Legion and Muscatine Rotary Club.

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Upsurge Of Walk-In Clinics

THERE ARE advocates and critics. Still and all, shopping center medical care has established an Iowa beachhead, if not a stronghold. To illustrate, in the last 12 months six *walk-in* facilities have appeared on the Des Moines horizon alone.

Other Iowa communities have similar entities either in operation or planned. In fact, one such clinic, Medicenter West, located near the Cedar Rapids Westdale Mall, is the granddaddy of them all with two years behind it.

Yang Ahn, M.D., Cedar Rapids family practitioner, indicates 16-hour days are common for him at his Medicenter West facilities. He says 62,000 patients have been seen there. Dr. Ahn's clinic operates from 8 a.m. to 10 p.m. weekdays and 8 a.m. to 5 p.m. on weekends. He is being joined this month by a new associate, Michael Stark, D.O.

As apparent senior Iowa purveyor of medical service in this mode, Dr. Ahn sees the next five or 10 years as the period most likely to determine if this approach will succeed. He says local colleagues have reacted in stages to his clinic. These reactions have moved, he reports, from initial skepticism to some degree of resentment to at least some realization that methods of delivering primary care are changing and his ideas may have some merit. Dr. Ahn believes his care format has helped restrain local emergency care costs.

The Cedar Rapids health care skyline has seen the coming of an additional *walk-in* clinic provided under the aegis of Mercy Hospital. This is located in northeast CR near the Lindale shopping center.

Still another Mercy, Mercy Hospital Medical Center in Des Moines has entered the market with a clinic in the Valley West Mall. This good-sized facility has 12 examining rooms, plus x-ray and lab areas.

According to Steven Eckstat, D.O., medical director, Mercy Medical Clinic, the facility will provide both episodic and ongoing care. At least five physicians will spend full- or part-time hours at the clinic. It is on a 10 a.m. to 10 p.m. weekday schedule with somewhat shorter weekend hours.

Des Moines' Mercy has additionally disclosed intentions to have several other similar clinic facilities in operation soon. These will be located in or near the Merle Hay Mall and in the Carriers Building on the downtown skywalk system.

Preceding Mercy with capital city *walk-in* care sites were the Iowa Methodist Medical Center and Des Moines General Hospital. General was the first Des Moines hospital to augment its inpatient activity. It opened a facility in South Ridge Mall late in 1982 and followed this with the Ankeny EmergiClinic in July. Methodist launched its initial project, called the Neighborhood Emergency Clinic, in July, putting it adjacent to Valley West Mall in West Des Moines. This facility is said to be geared more toward delivering episodic care.

Indications are that Methodist and Des Moines General have additional area clinics under evaluation. And while Des Moines appears likely to have the edge in numbers of these facilities, other Iowa communities are into the foray as well. Reports are that Dubuque, Waterloo, Cedar Falls and Davenport have new clinic formats within their city limits.

Des Moines and Iowa are evidently a microcosm — paralleling a national trend of some significance. This marketing adventure is complete with beepers given to shopping patients to summon them when they are ready to be seen. Competition is the theatric backdrop. The scenario will be played out on various stages over the ensuing several years — with individual physicians accepting roles they regard as most desirable. It will be interesting drama.

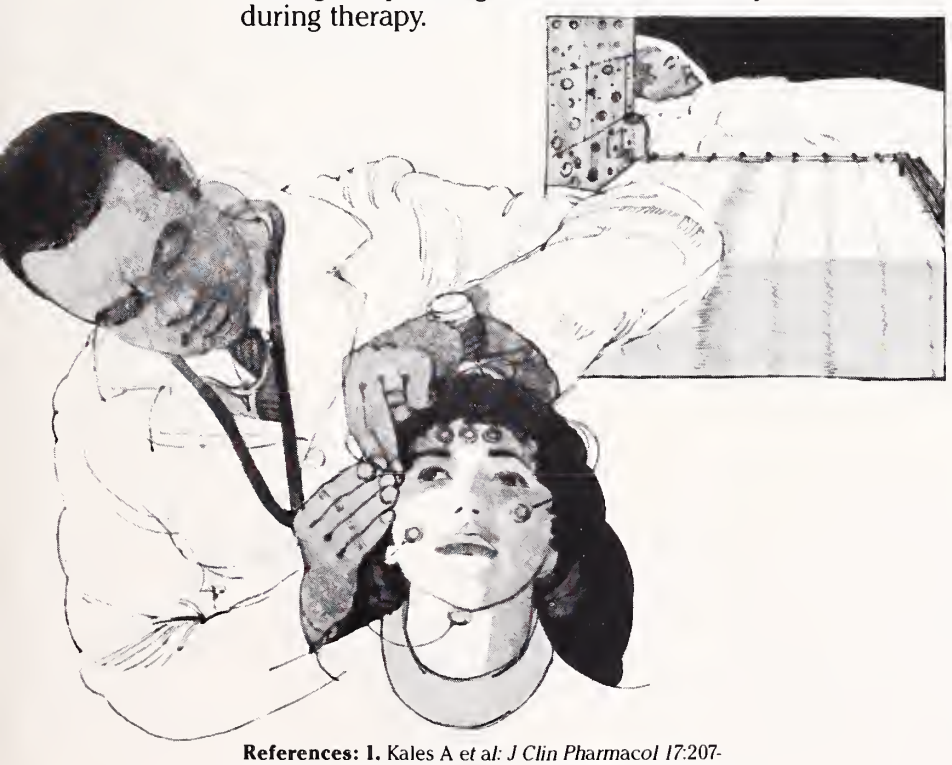
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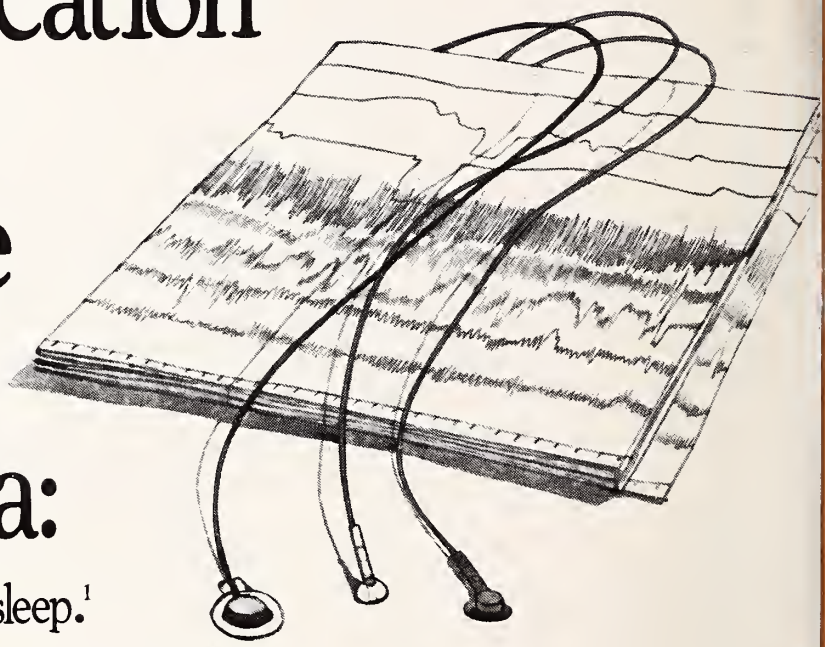
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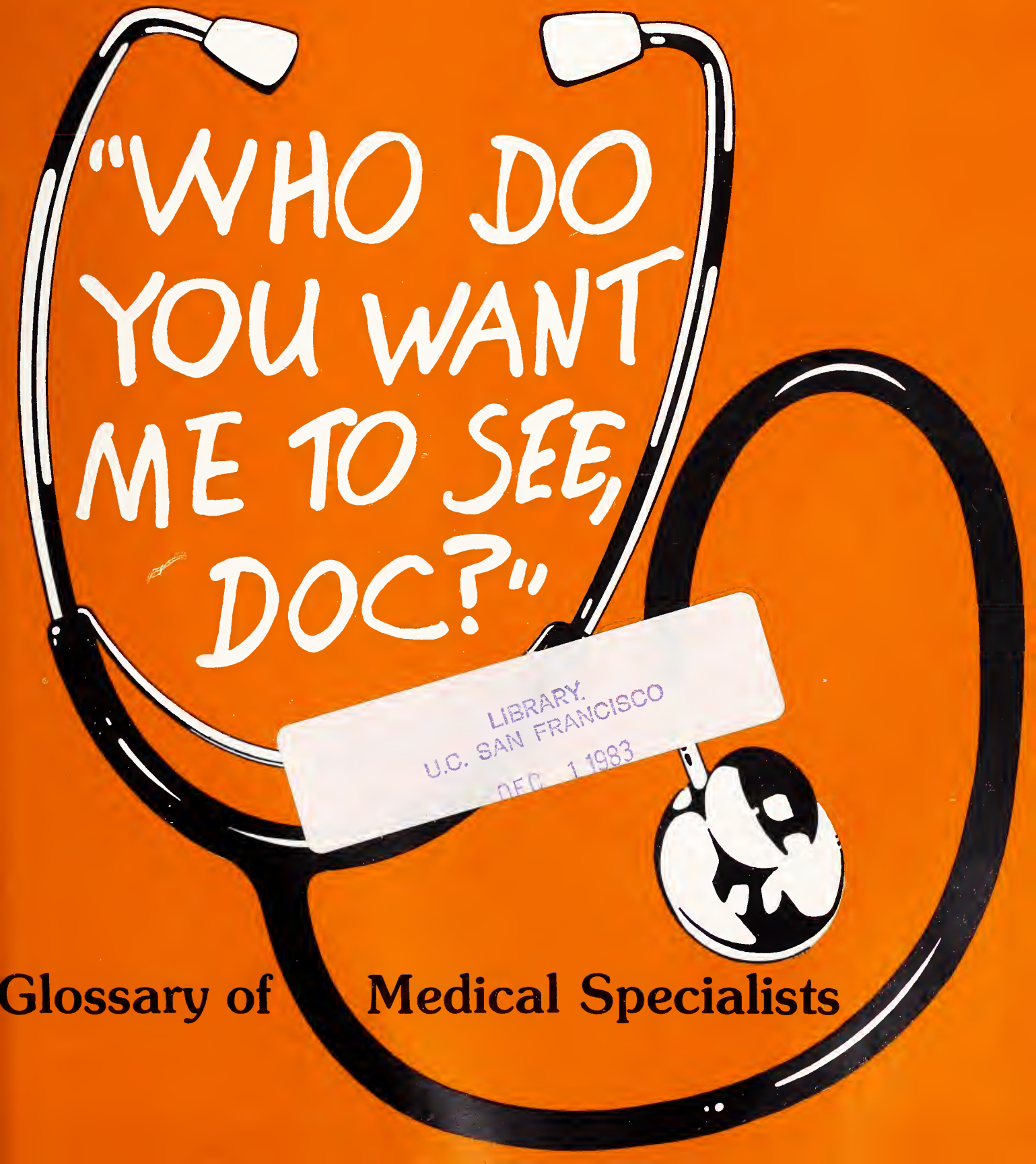
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JOURNAL OF THE IOWA MEDICAL SOCIETY

NOVEMBER 1983/VOLUME 73 NUMBER 11

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ABOUT THE COVER — The Health Education Thrust of this issue is underscored on the cover. Attention is drawn to a 4-page section containing brief descriptions of physician specialties. A second section has tips on raising children. Both are available in quantity to interested physicians.

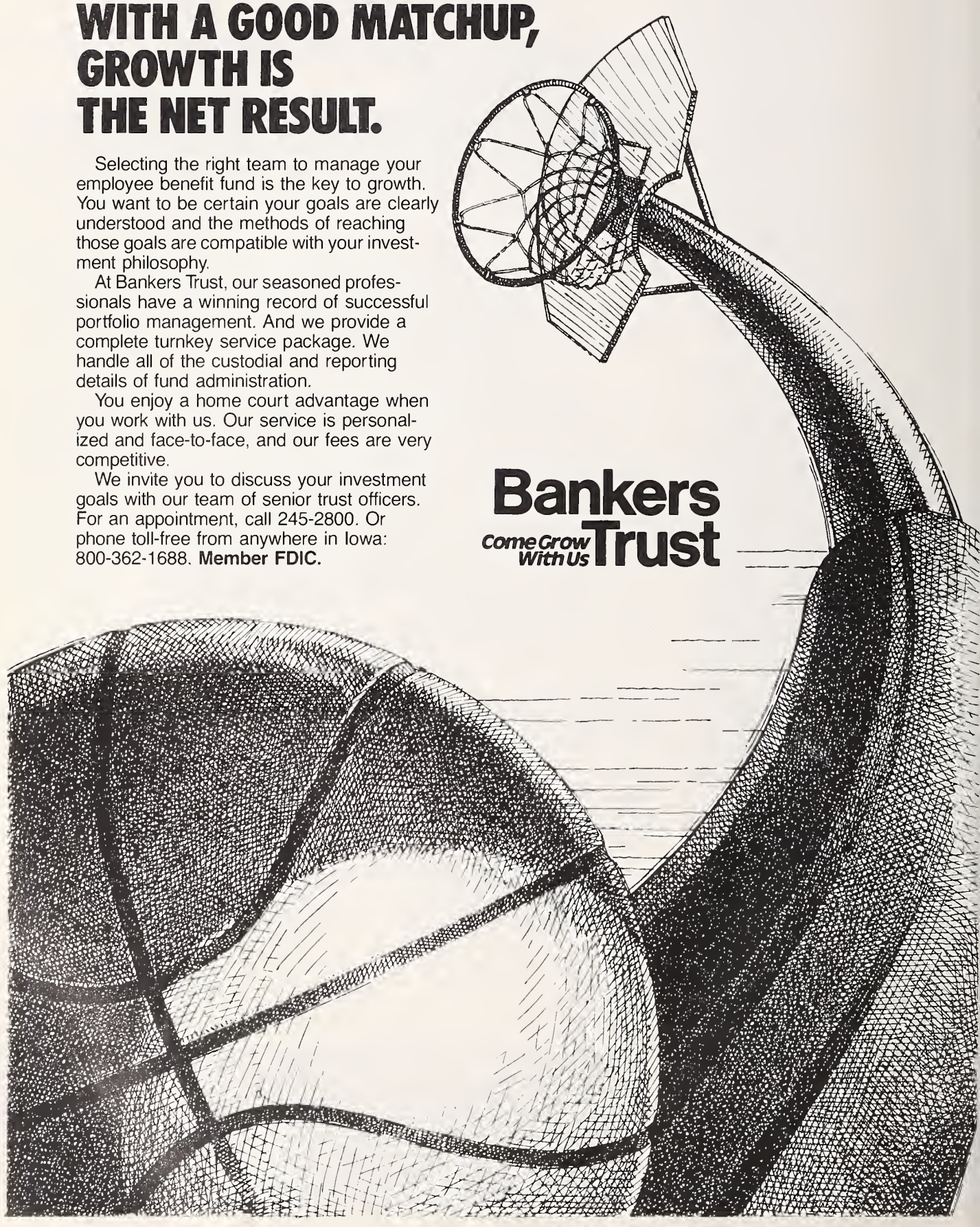
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If you are an Iowa-born baby girl your average span of life is 79.9 years; your male counterparts have an expectancy of 72.1 years. This reaffirms what we've known, that women live longer than men.

Another heartening finding has to do with infant mortality. In 1982, it reached the lowest rate ever recorded in the United States, 11.2 deaths per 1,000 live births. The rate for 1981 was 11.7 per 1,000.

In 1982, 1.7 million persons were added to the population as births exceeded deaths. There were 3.7 million U.S. births in 1982 as contrasted to 2 million deaths. A modest increase in births occurred in 1982. The diminished rate of population growth is attributed substantially to the reduced rate of growth in number of women of childbearing age and a more limited increase in the rate of childbearing.

These life expectancy and infant mortality findings are good news. There are several reasons. Part of it is more health education activity and greater attention to good health practices.

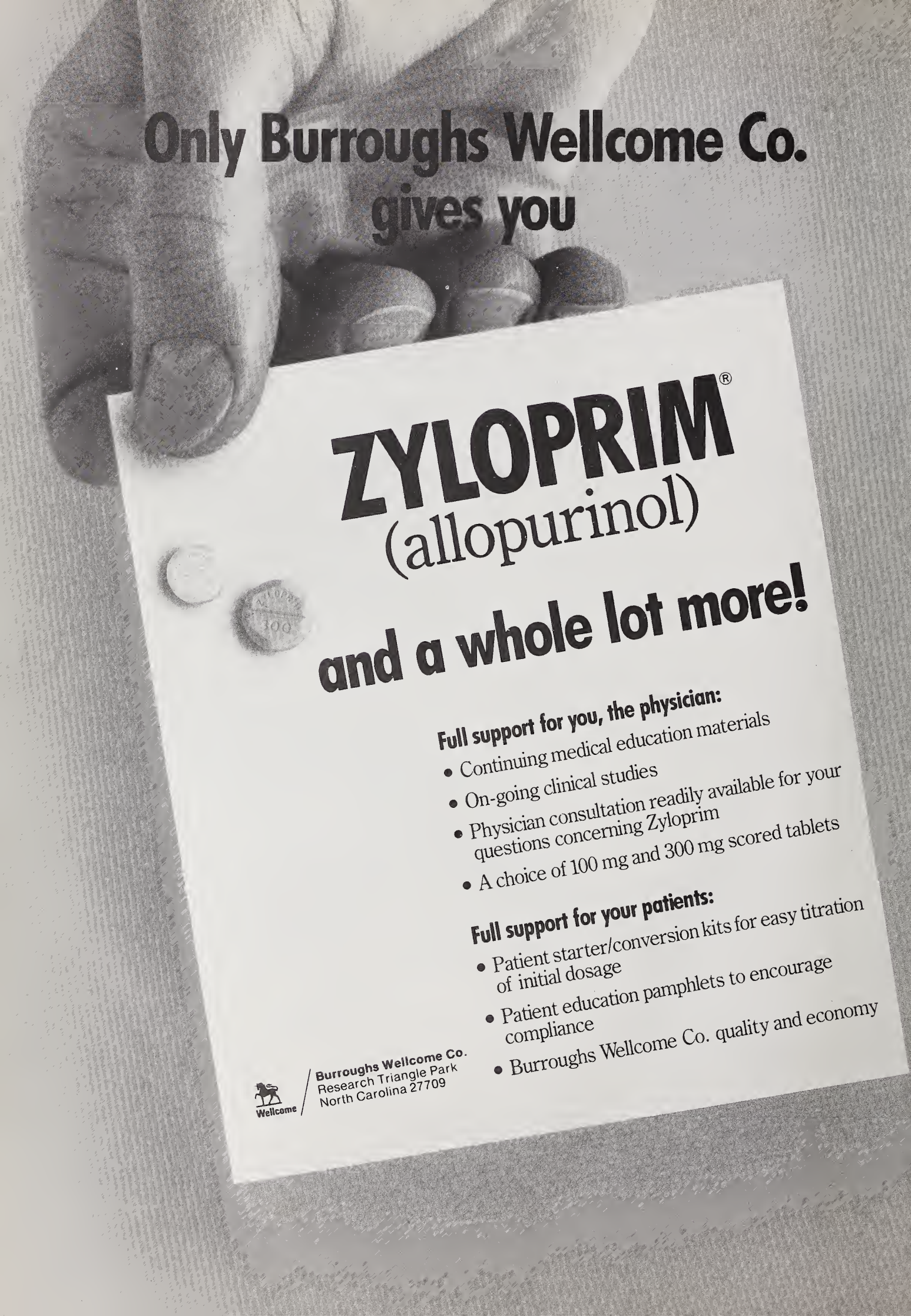
The Iowa Medical Society is doing its part in the health education area. Last month and this our Auxiliary has given principal leadership to four Governor's Conferences on School Health Education. And in this JOURNAL we offer two more health education folders — one offers ideas on taking care of children and one will help its readers understand what certain physician specialists do. This brings to six the number of such folders which are available. An order form is furnished for use by member physicians to request additional copies.

Happy Thanksgiving!



Erling Larson, M.D.
President

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THINGS YOU SHOULD KNOW

IMS MEDICAID CONCERNS The IMS Board of Directors in October recorded its concern with the State Department of Human Services and the Iowa Foundation for Medical Care over the decision to require preadmission certification for Medicaid patients. The SDHS has instructed the IFMC to institute such a program. Society policy opposing this concept was reaffirmed in communications to these bodies. In the mind of the IMS Board, the administrative and cost aspects of this certification will negate any expense reduction and may reduce the level of physician participation in Medicaid.

AUTO REPS COVER COSTS Between $400 and $600 in employee health benefits is represented in the cost of building every Ford or Chrysler. These figures were cited October 18 at the third Blue Cross/Blue Shield "Dollars & Decisions" Conference in Des Moines. Joseph Califano, former HEW Secretary and now a Chrysler Corporation board member, noted the $600 figure, and Paul Ryder, a Ford official, mentioned the other amount. Both hit hard on health care cost escalation and said management must address cost alternatives even more firmly; they indicated union responses to the issue have taken a different direction.

IMS/AETNA LIABILITY DATA Despite warnings of a pending national liability crisis, 1983 experience for the IMS/Aetna Liability Program is reasonably positive. New claims have increased in number, but the amounts reserved to cover possible payments are considerably less than recent years. This information was shared at two IMS/Aetna risk management seminars November 2 and 3.

MEDICAL STUDENT LOANS With 1983/84 loan commitments of about $116,000 to 40 Iowans attending medical school, the Iowa Medical Foundation this year will go over the one-million dollar mark in financial aid to aspiring physicians. A $4,000 grant was received in October for use in the Scanlon student loan fund of the Foundation. This continuing support is from Mrs. George H. Scanlon and the George H. Scanlon Foundation. The late Dr. Scanlon, an Iowa City surgeon, lead the formation of the student loan program in the 1950's.

SHARED STUDIES FOR '84 1984 statewide shared studies to be undertaken by the IFMC Continuing Medical Education Committee will deal with upper and lower gastrointestinal endoscopic procedures, pneumonia and deep vein thrombosis and pulmonary embolism. Appropriate specialty societies have helped draft the study criteria.

AMA REAPPOINTMENT IMS President-elect John E. Tyrrell, M.D., Manchester, has been reappointed as a representative of the American Medical Association to an advisory committee on ambulatory health care serving the Joint Commission on Accreditation of Hospitals.

COUNTY UTILIZATION RATES Medicare and Medicaid days of care per 1,000 patients are set forth on a county-by-county basis in a recent report of the Iowa Foundation for Medical Care. The statewide Medicare average is 3,730 days per 1,000 patients. The similar average for Medicaid is 1,650 per 1,000. This data has use for comparative purposes.

AUXILIARY QUILT PROJECT "Stitches in Time" is the theme of an IMS Auxiliary project to raise funds for the AMA/ERF. A quilt is being made by Auxiliary past presidents to be given to the individual holding the lucky $2 ticket. Drawing for the quilt will occur at the IMSA annual meeting May 4/5, 1984.

1983/84 IMS DIRECTORY The 1983/84 Iowa Medical Society Member Directory was provided in October to hospitals, libraries and chambers of commerce for reference use. Distribution was also made last month to the offices of member physicians.

'Guns, Butter and Good Health'

Regarded as one of America's most influential and informed spokesmen on the nation's delivery of health care, Dr. Jim Sammons has a reputation for "telling it like it is." In these comments, the AMA EVP emphasizes perspective — sure, money has been and is being spent, but this nation's progress in extending life and making it more productive has been significant.

JAMES H. SAMMONS, M.D.
Chicago, Illinois

LET'S EXAMINE the cost of medical and health services in this country today, and certain related misconceptions, including some that might have come from Disneyland.

Let's begin with the one which implies that because of the rising cost of medical and health services, government budgets are headed towards ruination. Some other misconceptions imply:

- That our annual bill for medical and health care services is somehow an unnecessary drain on the economy and on government budgets;
- That many of the dollars spent are somehow *mis*spent or wasted thanks to spendthrift doctors and hospitals.
- And that for many of those out-going dollars, there's not much return to the public health or to the public treasury. The record tells a different story. It tells us there are some very real and measurable returns to the public health and to the public treasury. In examining that record, let's start with a question:

What is the most important accomplishment of American Medicine?

I'd say the answer is a long and beneficial reach towards better health and a better quality of life for the American people. And I'd say nothing is more important than that.

At the turn of this century, medical science and technology were still in their infancy. Many diseases were still incurable. Hospitals were little more than way stations between life and death. Average life expectancy in America was just 47 years. So there wasn't much of a market for health insurance. Employees were comparatively younger, and employers weren't providing health insurance or complaining about its cost. In fact, very little talk or attention was paid to the cost of care.

Then came the explosive growth of advances in medical science and technology, with attendant advances in medical education and practice. There were successive increases in average life expectancy, fueled by advances in medicine and in standards of living. Inevitably, too, there were successive increases in the incidence of chronic health problems characteristic of aging.

DURING THIS transition, Blue Cross/Blue Shield and other private health insurance programs began providing people with financial access to all those medical advances; amortizing costs over large segments of the population.

Government helped finance the building of new medical schools and new community hospitals. In the prosperous sixties, the federal government enacted its Great Society pro-

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grams, including Medicare and Medicaid to assure elderly and needy Americans of access to care.

Meanwhile, we the people applauded and asked for more. As a nation, then, our social and medical reach was long, it was ambitious, and it was beneficial. And *what* we reached were promising new social and medical plateaus, with bright new hopes for the American people.

BUT THEN CAME the economic downturn of recent years, when those Great Society programs which were the great hope of our society as expressed in public policy, became hostages to economic policy.

So some of the programs dwindled and some have disappeared. Suddenly, there was a consensus that doctors and hospitals were running up billions of dollars in needless expenditures.

Our medical and health services system somehow had become a millstone for the general economy and government budgets; and many of the dollars spent for those services somehow had become water under the medical dam.

But let's stop and think a minute.

Precisely because of the high quality and availability of medical and health services, along with improved living standards, average life expectancy in this country today is more than 65 years. This means that millions of Americans are now alive who would not have survived turn-of-the-century conditions. And these millions of Americans are living productive lives, adding billions of dollars to the general economy and to the public treasury in various kinds of taxes.

Most people who do develop health problems are promptly treated and returned to the workplace. So business and industry save additional billions of dollars in what would otherwise have been millions of lost workdays.



Meanwhile, our overall health care system has become an imposing and beneficial economic force. The system employs almost 6 million people. And each year those people add upwards of $100 billion to the general economy. Last year alone, wages paid hospital employees totalled an estimated $77 billion. And at the same time, that's what people talked about — that health care is expensive. Of course it is.

IT *IS* EXPENSIVE to run a community hospital or a large group practice clinic. That's the price of gathering under one roof the arrays of human and technological resources necessary to provide patients with high-quality care. If it were much less expensive, we would have to give up some of the services now available to

'Guns, Butter and Good Health'

us, services that add dollars to the hospital bill.

The cost of the physician services portion of care has consistently been less than 20 cents of the medical-health care dollar. But as the patient's advocate, as well as his or her physician, we do not ignore the need to provide patient care in more cost effective ways, especially when we plan for services in the hospital.

It is with pride that I point out that the record also shows that the American Medical Association has been a leader in developing and implementing cost effectiveness programs. For several years now, we have waged an intensive Cost Effective Campaign involving more than 20 separate voluntary initiatives, many of them involving other concerned institutions and entities in both the private and the public sectors.

We are encouraging state and county medical societies to create or reinforce voluntary local health planning and peer review programs, with emphasis on the necessity and cost effectiveness of care, but without losing the quality we all desire.

The AMA has sponsored successive annual Cost-Effectiveness Conferences involving many medical specialty societies. Also in cooperation with the American Hospital Association and the Federation of American Hospitals, the AMA now has in place a Hospital Cost-Effectiveness Evaluation Network which involves 85 hospitals across the nation of differing size, locale and sponsorship. The purpose is to develop on-line projects to reduce or restrain the cost of the actual, day-to-day clinical practice of medicine within the hospital. Once the projects prove effective in the network, they are shared with other hospitals across the nation.

Another of our more promising voluntary cost-effectiveness initiatives is the rapid proliferation of local health care coalitions in communities across the land. During the past 4 years or so, more than 100 of the coalitions have been created by local medical, business and civic leaders. We believe these coalitions are especially promising because they do involve the cooperation of the major concerned organizations involved; and because they can be responsive to local medical-health care wants and needs, which vary from community to community.

On the national level, too, America's medical and health care wants and needs have varied; according to changes in medicine; to changes in economics; and to resulting changes in social and political policy-making.

What the American people have not had is a rational, long-term approach to the making of health policies. So the AMA has brought together many concerned organizations which are hard at work developing a Health Policy Agenda for the American People. We expect the process to take three years. With work done to date, we are looking to completion by the end of 1985.

This health policy is designed to end the charges and the counter-charges, and the confrontation, in our society over who ought to be doing what about medical and health services problems, including cost problems.

It's time to sit down at the same national table together, to confer with one another, and to cooperate with one another in developing practical and workable health policies that will serve the American people for many years to come.

Along the way, we can look for lasting answers to some persistent and crucial questions, such as how much should we be spending, as a nation, towards the good health of our people?

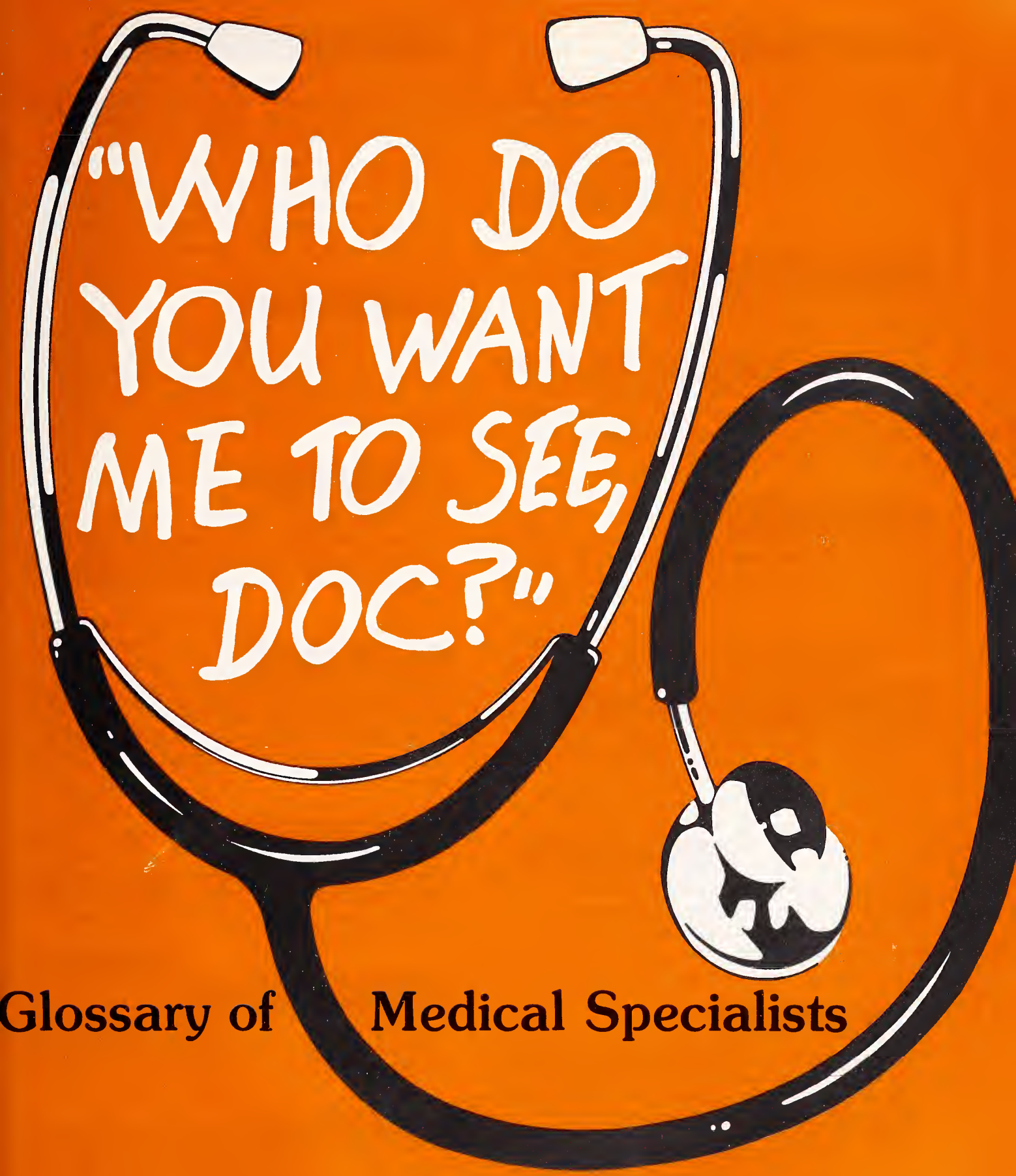
Is 10 per cent of the Gross National Product too much?

Or is it too little?

And what are the proper long-term roles and responsibilities of those of us in the private sector, and of those in the public sector?

In Washington, when apportioning tax dollars, it's fashionable to talk about "guns and butter."

The AMA would like to change that line to read "Guns, Butter & Good Health." Because, as I indicated at the outset, over the long-term, nothing is more important to the American people, to all of the people, than good health.



Glossary of Medical Specialists

Gastroenterologist

The gastroenterologist is a physician who specializes in diagnosing and treating various problems of the esophagus, stomach, liver, pancreas and intestines. These range from peptic ulcer disease to pain or difficult swallowing, to hepatitis, to inflammation or malfunction of the bowels. Treatment methods are non-surgical.

General Surgeon

The general surgeon performs a wide variety of operations on many different parts of the body. Some of the more common procedures are appendectomies, gall bladder removal, correction of intestinal obstruction, treatment of varicose veins, breast biopsies and mastectomies, lymph node biopsies, repair of hernias, and sometimes surgery on the lungs and blood vessels.

Geriatrician

The geriatrician is a specialist in the medical care of the elderly patient. He or she treats health and emotional problems which are unique to older patients, many of which are the same as those of younger people.

Gynecologist/Obstetrician

This physician specializes in disorders involving the woman's reproductive system, including problems such as abnormal or irregular periods, infertility, pelvic pain, tumors of the reproductive organs, and birth control. He or she also deals with all events and conditions associated with pregnant women. Besides taking care of patients during normal pregnancy and delivery, he or she is trained to deal with complications of pregnancy and performs surgical procedures, such as caesarian sections, when they are needed.

Hematologist

The hematologist specializes in the treatment of patients with abnormalities in the blood, which includes anemias, blood clotting problems, and cancers of the blood-forming organs such as leukemias and Hodgkins disease.

Internist (Internal Medicine)

This is a physician who has received specialized training in the health problems of adults. He or she takes care of fairly straightforward problems like influenza, hypertension or breathing problems. The internist is also an expert at the diagnosis and treatment of more unusual and complicated illnesses. Treatment provided by the internist is of the type which most often employs carefully selected medications.

Maxillofacial Surgeon

The maxillofacial surgeon treats patients with abnormalities of the face and mouth, including a variety of problems ranging from birth defects, such as cleft palate, to burns or accidents causing disfigurement, to removal of tumors involving the tissues of the mouth. These surgeons sometimes perform such procedures as reshaping the nose or jaws to improve appearance and function. This area of expertise is similar to that of a plastic surgeon.

Neonatologist

Newborn babies, particularly those who are born too early, or who have birth defects or other illnesses, are susceptible to many unique and serious problems. Neonatologists are trained to provide the special care these babies need.

Nephrologist

The nephrologist is a specialist in internal medicine who has subspecialized in treating people with kidney diseases. He or she is usually in charge when a person needs treatment with "artificial kidney" (dialysis).

Neurologist

This physician specializes in diagnosing and treating such conditions of the nervous system as stroke, seizure disorders, multiple sclerosis, and others. He or she treats patients who are responsive to non-surgical treatment.

Neurosurgeon

This physician confronts conditions similar to those of the neurologist, but he or she treats those patients who can benefit from surgery (i.e. brain surgery, surgery of the spinal cord).

Nuclear Medicine

This physician has received special training in use of radioactive substances to diagnose and treat certain conditions.

Oncologist

The oncologist is a physician who specializes in treating malignant conditions. While the surgeon usually deals with tumors when they can be removed, the oncologist treats people who have cancer which is determined to be responsive to chemotherapeutic agents.

Ophthalmologist

The ophthalmologist is trained to diagnose and treat conditions and diseases of the eyes. The ophthalmologist may treat those conditions either with

A Glossary of Medical Specialists

When you have a basic health problem, chances are you'll make an appointment with your family doctor, or *primary care physician*. The primary care physician is trained to take care of a wide variety of conditions and will probably provide most medical care required throughout your lifetime. The problems that your primary care physician will handle can range from acute illnesses, such as sore throats, pneumonias, and heart attacks, to chronic problems, including diabetes and hypertension. He or she is also usually responsible for routine checkups, employment and insurance physicals, and preventive medicine problems.

But when the primary care physician detects a symptom he or she thinks needs more specialized evaluation, it often will be suggested that another physician be seen — one who has added training and experience in a more specialized area. Sometimes the designations given to these specialists are not familiar and you may be uncertain as to what they are.

This folder has been prepared to give you a brief explanation of the kind of medical services provided by various medical specialists. If and when your primary care specialist recommends that you visit a specialist, feel free to ask the doctor to explain his or her specialty in more detail, as well as the training or particular expertise that is involved.

MEDICAL SPECIALTIES

• Allergist

Certain foods, pollens, dust and other environmental factors create problems for some individuals. These can produce minor irritations, but also may cause serious conditions. The allergist treats patients with these symptoms.

• Anesthesiologist

When a surgical procedure is needed, the anesthesiologist selects and administers the substance necessary to keep the patient in the proper level of consciousness for the procedure to occur. This means the anesthesiologist is a specialist who takes care of patients during and immediately after surgery. He or she assures that they are relatively free from discomfort, and that their breathing and heartbeat remain normal during the operation. The anesthesiologist also takes care of patients who need a machine to help their breathing, and often is an expert at pain control.

• Cardiologist

The cardiologist specializes in problems involving the heart and the major blood vessels. Included here are heart attacks, irregularities of the heart beat, angina and chest pain caused by poor circulation to the heart, as well as many other problems.

• Cardiovascular Surgeon

This surgeon operates on the heart itself, as well as the blood vessels, to correct a wide variety of problems which range from congenital heart problems in babies and children, to diseased heart valves in elderly patients, and to blood vessels blocked by blood clots or "hardening of the arteries." Cardiovascular surgeons also do bypass operations to improve the circulation to the heart among selected patients who have chest pain or have had heart attacks.

• Colon and Rectal Surgeon

There are many problems involving the large intestine (colon and rectum), which are managed by this specialist. Simple but uncomfortable problems, such as hemorrhoids, as well as more serious diseases, including tumors and intestinal bleeding, are within the area of expertise of this specialist.

• Dermatologist

There are hundreds of different causes of rashes and other disorders involving the skin. Often, these are simply uncomfortable, irritating or unsightly. In some cases, however, they can be quite serious. This specialist diagnoses the causes of these disorders and decides the best treatment.

• Endocrinologist

This physician is a specialist in problems involving the endocrine glands, which are the body's regulatory systems. Some disorders the endocrinologist treats are diabetes; the improper function of the thyroid, including too much or too little thyroid hormone; abnormalities of growth or sexual development in children, as well as many other diseases.

• Family Physician

The family physician is a specialist trained to take care of most of the health and emotional problems of all members of the family, including newborn infants, children, pregnant women, adults and the elderly. He or she often has special training in preventive medicine and in individual family counseling.

medications or surgery, depending on the case. Some ophthalmologists even subspecialize to treat only certain conditions of the eyes, e.g., glaucoma.

• Orthopaedic Surgeon

Conditions of the bones, ligaments and tendons (i.e. deformities of the extremities, fractures, bone tumors) are diagnosed and treated by physicians who have specialized training and experience in orthopedics.

• Otologist

This physician specializes in diseases and conditions of the ears. Most otologists are actually otorhinolaryngologists.

• Otorhinolaryngologist

Since the ear, nose and throat are so closely related in the human being, conditions of one can effect the other. This specialist deals with all three of them. Since many problematic conditions of the ears, nose and throat have to be treated by surgery, the otorhinolaryngologist is trained to perform surgery in these delicate areas.

• Pathologist

The pathologist assists in making diagnoses by looking directly at body tissues microscopically. They also perform autopsies to determine the cause of death. They also help make diagnoses by analyzing blood and other body fluids with laboratory tests.

• Pediatrician

This physician is trained to deal with the disease conditions and problems of children, as well as the care of normally growing and developing children.

• Physiatrist (Physical Medicine)

This physician deals with conditions affecting the muscles of the body. He or she usually prescribes physical modalities of treatment (i.e. heat, cold, electrical stimulators, exercises) that are administered by physical therapists. Physiatrists are active in trying to find answers for the causes of a group of diseases called neuromuscular disorders (i.e. muscular dystrophy).

• Plastic Surgeon

The plastic surgeon specializes in treatments done for cosmetic purposes. The intervention of a plastic surgeon is important for patients who have been victims of disfiguring injuries or accidents, i.e. burns. They are also an important part of the health team when patients need surgery that can be disfiguring.

• Psychiatrist

Persons with severe emotional or mental disorders need specialized attention, diagnosis and treatment. The psychiatrist is qualified to furnish these services.

• Radiologist

This is a physician specialized in doing and interpreting diagnostic procedures with the use of x-rays. Today, the radiologist's field extends beyond the use of simple x-rays and now involves other more sophisticated ways of making images of the inside of the body, such as ultrasound and CT scan.

• Rheumatologist

This physician is a specialist in internal medicine who has subspecialized in the diagnosis and treatment of inflammatory conditions of muscles and joints, such as rheumatoid arthritis, osteoarthritis, gout and others.

• Thoracic Surgeon

This surgeon is trained specially to perform surgery related to the heart, lungs and thoracic cavity.

• Urologist

The urologist specializes in treating conditions of the kidneys and urinary system. In contrast with the nephrologist, who takes care of those conditions that respond with medications, diet or dialysis, the urologist often treats conditions that call for surgical procedures (i.e. kidney stones, tumors of the kidney or bladder, prostate problems, etc.).

The content of this folder has been developed by the Patient Education Committee, Department of Family Practice, University of Iowa College of Medicine, Leslie E. Weber, M.D., Chairman. Principal contributors from the Committee are Maureen Brown, M.D., and Ivan Iriarte, M.D.

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Current Trends In Liveborn Singleton Birthweights

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KATHERINE S. HAUSER, M.D., and
ROBERT SHAW, M.D.

Birthweight-gestational age data from a major teaching hospital for the years 1978-1980 are presented and compared to older widely used standards. This study suggests that other definitions of abnormal birthweights for gestational age may not be predictable to current Iowa obstetric populations.

It is known that infants at the extremes of size for duration of gestation, either small for gestational age (SGA) or large for gestational age (LGA), are at increased risk of adverse perinatal outcome. However, with improving ability to assess fetal size in utero, plus the development of more accurate fetal monitoring techniques, fetal well-being can now be better assessed during pregnancy. In addition, serial growth determinations may now be determined on each fetus during the course of pregnancy.

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Advances in neonatal intensive care have also improved the prognosis for infants suffering sequelae of adverse pregnancy outcomes. This suggests that an increasing number of obstetric interventions can be expected on the basis of altered fetal growth. In order for such interventions to be appropriate, it is essential that the normal range of birthweight throughout pregnancy be known. While several such normative studies have been reported over the past decades,[1-6] variation in birthweight-gestational age data persists. This is based on multiple considerations, including the methods of gestational age definition, the socioeconomic and ethnic status of the population, its nutritional status, the frequency of coexistent maternal medical problems, the frequency with which induction of labor is employed, the parity of the patients, the elevation above sea level, and the sex of the infant. Despite suggestions that birthweight is increasing in parallel with improvements in general health and nutrition, no recent birthweight-gestational age distributions are available.

For several years the University of Iowa Hospitals has employed the standard birthweight-gestational age curve reported by Lubchenco and associates.[1] This data was reported in 1963 and consisted of 5,635 liveborn Caucasian infants born in Denver, Colorado, of indigent mothers between 1948 and 1961. It is our clinical impression that infants born in the past

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TABLE I

BIRTHWEIGHTS OF ALL LIVEBORN SINGLETON INFANTS AT UNIVERSITY OF IOWA HOSPITALS — JANUARY 1, 1978 TO DECEMBER 31, 1980

Weeks Gestation	N	P-10	P-25	Mean	P-75	P-90
26	18	480	542	680	765	921
27	21	704	795	944	1045	1362
28	31	704	780	1025	1220	1476
29	41	892	1025	1205	1380	1576
30	68	949	1050	1286	1490	1702
31	65	1112	1300	1592	1760	2022
32	80	1252	1440	1798	2017	2494
33	89	1376	1645	1970	2225	2550
34	136	1614	1872	2269	2540	3200
35	192	1860	2170	2568	2920	3457
36	328	2100	2420	2783	3120	3500
37	552	2443	2700	3071	3377	3740
38	1189	2640	2915	3227	3520	3810
39	1608	2760	3020	3316	3600	3881
40	2439	2860	3110	3415	3700	4000
41	1058	2980	3218	3513	3800	4080
42	399	3030	3280	3648	4000	4240

Total = 8314

TABLE II

BIRTHWEIGHTS OF ALL LIVEBORN MALE SINGLETON INFANTS AT UNIVERSITY OF IOWA HOSPITALS — JANUARY 1, 1978 TO DECEMBER 21, 1980

Weeks Gestation	N	P-10	P-25	Mean	P-75	P-90
26	13	488	535	701	880	1176
27	12	738	792	984	1125	1455
28	14	800	900	1075	1245	1395
29	26	953	1022	1200	1380	1563
30	30	889	1112	1301	1500	1742
31	39	1100	1300	1622	1780	2040
32	41	1304	1475	1872	2070	2616
33	50	1500	1785	2067	2312	2658
34	72	1560	1902	2300	2560	3277
35	96	2027	2385	2699	3042	3518
36	169	2100	2440	2809	3115	3600
37	304	2490	2772	3151	3500	3840
38	605	2656	2950	3284	3570	3894
39	802	2800	3060	3378	3680	3950
40	1249	2920	3170	3492	3800	4100
41	529	3000	3265	3563	3835	4130
42	210	3031	3300	3676	4042	4230

Total = 4261

TABLE III

BIRTHWEIGHTS OF ALL LIVEBORN FEMALE SINGLETON INFANTS AT UNIVERSITY OF IOWA HOSPITALS — JANUARY 1, 1978 TO DECEMBER 31, 1980

Weeks Gestation	N	P-10	P-25	Mean	P-75	P-90
26	5	480	520	627	727	760
27	9	670	765	892	985	1060
28	17	678	740	984	1135	1548
29	15	720	1020	1214	1430	1696
30	38	949	1040	1274	1435	1675
31	26	1129	1300	1547	1715	2115
32	39	1148	1370	1721	2000	2400
33	39	1235	1480	1846	2110	2520
34	64	1645	1860	2235	2472	3095
35	96	1795	2010	2438	2735	3382
36	159	2100	2900	2756	3130	3450
37	248	2429	2640	2973	3255	3562
38	584	2620	2872	3169	3957	3700
39	806	2740	2970	3253	3500	3810
40	1190	2810	3060	3334	3600	3859
41	529	2960	3160	3464	3750	3989
42	189	3030	3250	3617	3935	4250

Total = 4053

decade at University Hospitals are seldom SGA by this standard and are frequently LGA. Both because of this apparent discrepancy and because of the aforementioned requirements for current accurate normative data, this report is provided to show standard birthweight curves for liveborn infants delivered at University of Iowa Hospitals during the period January 1, 1978, to December 31, 1980.

MATERIALS AND METHODS

The birth records of all liveborn singleton infants at the University of Iowa Hospitals and Clinics were reviewed for the period January 1, 1978, to December 31, 1980. All pregnancies were included if they were judged to have completed at least 26 weeks from the last menstrual period. Gestational ages beyond 26 weeks were assigned on the basis of the gestational age assessment examination of Ballard and associates.[7] When such examinations were not performed the gestational age was estimated by combining an estimate of the attending physician, based on uterine size(s) and obstetric ultrasound(s), with the last normal menstrual period as reported by the patient. Infants with anomalies were not excluded. Likewise, no exclusions were made for pre-eclampsia, malpresentations, isoimmunization, maternal carbohydrate intolerance or any other pregnancy complications. Information recorded from each infant included gestational age, birthweight and infant gender. A total of 8,314 infants fulfilled these requirements during the study period, including 4,053 females and 4,261 males.

Fetal weight percentiles were calculated from the data at each week of gestation. Percentile curves were generated for the total population as well as for male infants and female infants. The 10th, 25th, 50th, 75th and 90th percentiles were calculated.

Because of the preponderance of Caucasian (94.6%) nulliparas (60.8%) seen at University Hospitals during the study period, specific racial and parity-adjusted curves were not calculated.

RESULTS

The 10th, 25th, 50th, 75th, and 90th percentiles of fetal weight from 26 weeks of menstrual gestation are portrayed in Figure 1 and detailed in Table I. The data were then tabulated separately by fetal sex. This allowed calculation of separate birthweight curves for males (Table II) and females (Table III).

To confirm the clinical impression that infants born at University Hospitals were heavier than those constituting the data of Lubchenco and associates,[1] the gestational age-birthweight data from the respective populations were compared. This comparison is seen for the entire populations in Figure 2.

DISCUSSION

As can be seen in both Figure 1 and Table I, good continuity of fetal weight percentile curves is achieved. This suggests that the overall sample size is sufficiently large that reproducibility could be anticipated. These data do not address the normalcy of those infants delivered at less than 36 completed gestational weeks. As noted by Naeye and Dixon,[8] an increased percentage of such infants may be abnormal and thus not be representative of normal intrauterine growth. However, these data show good internal consistency and should be expected to be reasonably accurate for those infants born prematurely for whatever cause.

Even when separated by newborn gender, good continuity of fetal weight percentile curves was achieved (Tables II and III).

Tables II and III document the importance of neonatal gender in birthweight significance. At all weights males weighed consistently more than females. A total of 246 infants were distributed between the male P-90 and the female P-90, and 132 infants were distributed between the male P-10 and the female P-10,

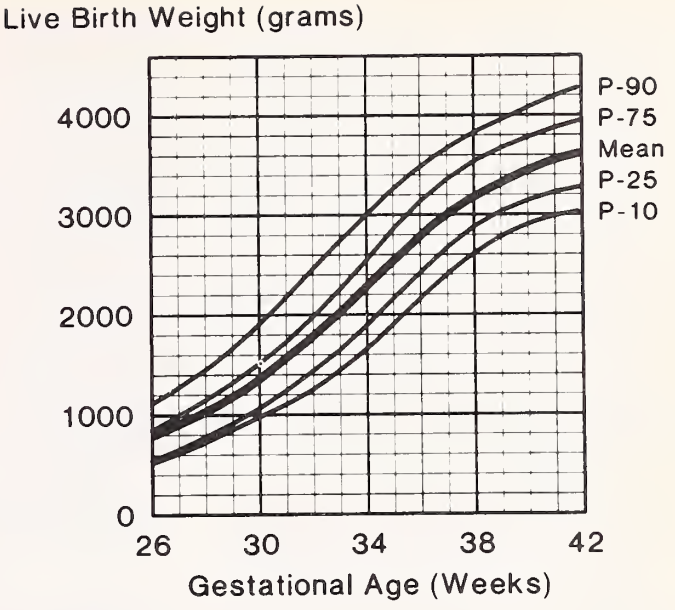


Figure 1. All liveborn singleton birthweights; University of Iowa Hospitals 1978-1980.

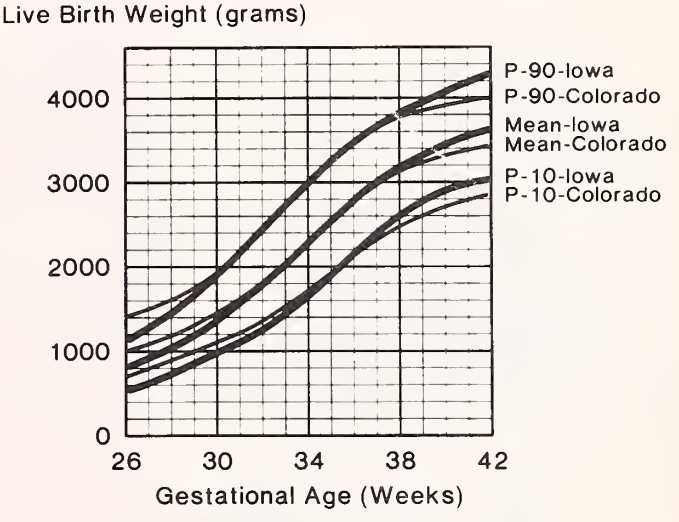


Figure 2. Comparison of all liveborn singleton birthweights; University of Iowa Hospitals 1978-1980 versus University of Colorado Hospitals 1948-1961.

suggesting that a greater variance in birthweights occurs at the higher percentiles for any given gestational age. It also emphasizes that infants should be evaluated on a gender specific birthweight curve to optimize their classification as SGA, AGA, or LGA.

When trying to optimize birthweight classification, perhaps the single most important consideration is classification through use of

(Please turn to page 450)

an appropriate birthweight gestational age curve. As demonstrated in Figure 2, liveborn infants delivered at the University of Iowa Hospitals weigh more than those infants constituting the data of Lubchenco and associates.[1] It is also important to note that the obstetric service at University of Iowa Hospitals serves predominantly young Caucasian primigravidas. In addition, many patients are referred either because of concomitant diseases that may produce abnormally grown fetuses or because of questionable duration of gestation. Because of these, and other sources of variation, other obstetric populations may need to be individually evaluated to determine the applicability of this data.

With progressive improvements both in the ability to accurately estimate fetal weight in utero[9, 10, 11] and in survival statistics from neonatal intensive care units, more obstetric interventions can be anticipated. These interventions are motivated by the continuing documentation of increased morbidity and mortality with both SGA[12, 13, 14] and LGA[15, 16, 17] infants. This latter data suggests that intervention may be appropriate not only for the SGA fetus, which has been espoused for some time, but also for the LGA fetus as well. The propriety for such interventions can be optimized by utilizing improved techniques for assessment of fetal size in conjunction with clinical estimations of fetal weight and gestational age-birthweight standards that are appropriate for the obstetric population being served.

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The references noted in this paper are available on request either from the authors or the JOURNAL OF THE IOWA MEDICAL SOCIETY.

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HELP YOUR CHILD STAY HEALTHY

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Raising healthy, happy children is a beautiful experience. We know, just as you do, that it is also one of life's biggest responsibilities. The challenge of child rearing is one for which many of us have very little preparation. To succeed, we need to apply a full measure of common sense. And we can make the job much easier, and increase our chances of success, if we seek out and use good advice.

After all, raising a well child — one who is healthy in mind, body, and spirit — is really a team effort. As parents, you're a vital part of that team, as is your pediatrician or family doctor. Together, you and your health care provider can make sure your child receives good preventive care: not just at the doctor's office, but at home, at school, and in all aspects of life.

We've prepared this folder with these thoughts in mind. If you're raising youngsters now, or plan to in the future, we hope you find our advice useful. Remember, what we do as parents today will have much to do with the future of our children — and in turn, will go a long way in determining how our children raise their sons and daughters.

We take parenting very seriously. We hope you do, too!

It's not too soon!

Plan ahead for your baby's good health. Obtain prenatal care as soon as you think you may be pregnant. Take good care of yourself through proper nutrition, rest, and exercise. Avoid alcohol, tobacco, and unnecessary medication. Attend prenatal classes to learn about parenting. It's easier and more fun if you know what to expect!

Choosing a physician

Most parents select a pediatrician or family physician to care for their baby. Choose a physician with whom you feel comfortable and in whom you have confidence. Visit your child's doctor before the baby arrives to learn what early care will be needed.

Regular visits to your child's physician are essential for preventive care and will include discussions of general health, nutrition, development, safety, and other concerns. These visits should begin at birth and continue bi-monthly until your baby reaches six months of age, after which your doctor will probably schedule check-ups every three months or so until your child reaches the age of two. Visits to your physician during your baby's first year will include important immunizations for diphtheria, tetanus, whooping cough (pertussis), polio, and measles. Your doctor will explain the importance of these and other vaccines. In general, a child's immunizations should follow this recommended schedule:

AGE	IMMUNIZATIONS
Age two months, four months, six months, and four or five years	DTP (diphtheria, tetanus, pertussis) OPV (oral polio)
Age 15 months	MMR (measles, mumps, rubella)
Age five years, and every 10 years after age five	TD (tetanus and diphtheria booster)

Don't assume that grade school or teenage children need be seen only when they're sick; regular doctor's visits shou continue yearly until your child reaches the age of 18. Yo doctor will explain the schedule he or she follows in providi regular child care. Do your part by listening and learning wh symptoms should be reported to your physician.

In addition to providing specific health care, regular visits the physician give you a chance to see and record how yo child is growing and developing. Keeping track of growth u ing standardized growth charts is important, with attenti to height, weight, and head size. Other assessments, whi may be made by your physician's pediatric nurse practition will include vision, hearing, and blood pressure tests.

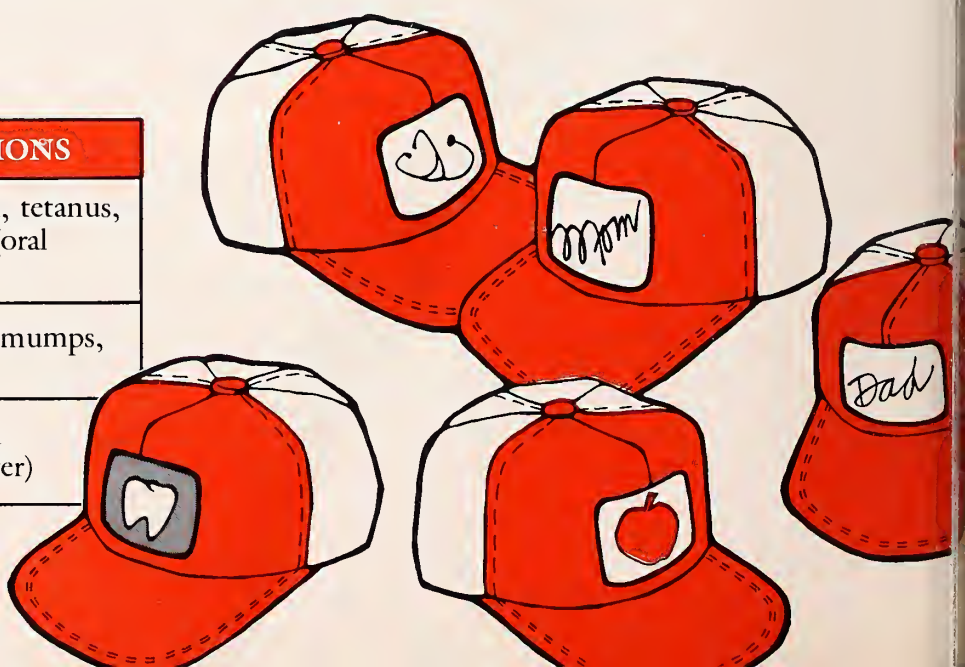
Love and attention

Your infant will be very vocal about his needs during the fi few weeks at home and will require a great deal of time and tention. Respond to his cries promptly: his deepest, mo basic need is to be loved and cared for. Give your baby lots attention at other times, as well, by talking, singing, readir holding, and playing gently.

It's through loving interaction with you that your baby w grow and develop. He will acquire skills best in an encoura ing, calm, and accepting environment, and will become eag to learn the many tasks ahead. You'll find that added love a attention really does make a difference in the way your ch responds. It's as necessary as sunshine to a growing plant!

Follow a reasonable schedule

As early as possible, establish a reasonable schedule for yo child and the rest of your family. Regular mealtimes a especially important and should be observed as much as pos ble. Activities such as playtime, bathtime, and bedtir should have specific places in the daily routine. Children ne such consistency in order to feel secure; a secure and lovi environment will in turn enable them to develop their ov independence as they grow and mature. Your guidance a supervision are therefore very important to the developme of your child's healthy lifestyle.



Good nutrition starts now

Good eating habits go hand-in-hand with good nutrition. As you raise your child, pay attention to not just what is eaten, but when and how. Mealtimes should be pleasant. Good lifelong eating habits will develop if (a) the meal schedule is regular, (b) various nutritional foods are offered in small amounts, c) snacks are limited, and (d) an encouraging atmosphere is present. Your child won't develop healthy habits through punishment or force-feeding.

Proper nutrition for your baby means appropriate and adequate calories. In the first year, this comes mainly from breastfeeding or formula. Breast milk is the best food you can give your baby. Juice or soda should not be substituted for milk. Pop and other quickly-prepared, sugar-laden beverages and other so-called "junk foods") don't replace nutritional foods.

Obesity often begins in toddler years, so it is especially important to establish good eating habits early in your child's life. Avoid high calorie foods as snacks or rewards. Serve appropriate portions from a balanced menu of nutritious foods. When your child is very young, you can save money and help insure good nutrition by making your own baby food using a blender or food processor. There's no need to add extra salt or sugar to your baby's food.

Take care of baby teeth

Proper nutrition is a way of assuring healthy teeth, as well as healthy bodies. Children need regular preventive dental care beginning when their first teeth appear at around three to eight months of age. Protect your baby's teeth by not leaving bottles of milk or juice propped in the crib. Serious cavities can result when milk or juice rests against the teeth for long periods.

Although your child won't need to visit a dentist until toddler years, dental care can begin at home as soon as baby teeth appear. Keep your infant's teeth clean by rubbing with a soft cloth, tissue, or cotton daily. Teach your child how to brush his teeth with a soft brush as soon as he seems interested, around age two. When your child begins dental visits, make sure he receives fluoride treatments and prompt dental care when it is needed. This includes any type of injury involving the teeth, as well as regularly-scheduled checkups.

Safety first

Safety is always important where children are concerned. Accidents — especially in the car — are the leading cause of child fatalities. When you travel with your child, place him in the car restraint appropriate for his age and size. Holding a baby in the front seat passenger's arms is very dangerous; always use an approved car seat instead. Make every ride a safe ride! More tips on accident prevention are available from your physician and other sources (hospital, local Red Cross, public schools). To prevent serious accidents, make your home surroundings safe, clean, and comfortable. Alert baby-sitters and grandparents to your safety practices. Are medicines and cleansers out of reach? Are wall sockets covered? Are stairways protected? Are ipecac and poison control phone numbers available?

Deciding on day care

Choose your child's day care site very carefully. Make sure the sitter you select is caring and safety-conscious. While cost is always a factor, your baby's health and safety should be your primary concerns. Investigate your child's "home away from home." Many states and communities have guidelines which must be met by qualified day care facilities. When you've chosen a sitter or day care center, start by leaving your baby for short periods. Allow him to get used to the new sitter and surroundings, as well as to your absence.

Sleepy time

Establish a calm, reassuring bedtime routine for your child. Begin it at a reasonable hour. A bath, a story, a visit — all are important at the end of the day. Avoid roughhousing or loud play just prior to bed. Angry words and punishment aren't effective ways of getting children to sleep; firmness and consistency work better.

A word about television

Television is a part of life — we can't just ignore it. While no child "needs" TV, it can be educational and enjoyable when used wisely. The amount and type of viewing is important at all ages. Suggested times are one hour per day for a toddler; no more than one to two hours for grade schoolers.

Frightening, violent, or sexually explicit programs are harmful to children. The Parent-Teacher Association (PTA) and other organizations offer good advice on television viewing. Discourage TV at mealtimes or just before bed. Set a good example by limiting your own TV viewing. Make an effort to watch programs together, and then discuss the characters with your children, what scenes were funny or sad, what happened, what was real or unreal. Above all, do not let television interfere with your child's need for play, exercise, and interaction with you and with other children.

Toilet training and bedwetting

Only two out of three toddlers are toilet trained by age two. Toilet training is not something the parent accomplishes — the child does it when developmentally ready. You can show him how, praise him, and guide him. But if he's not dry at night or doesn't respond to your teaching, he's probably not ready. Give him a little more time. Occasional accidents are normal and the child should not be punished for them. One out of 10 six-year-olds wets the bed. Most children who wet the bed are likely to stop between ages eight and 10. Often they have parents or relatives who also wet the bed.



Be a teacher, too

A teacher's job is to guide your children, set limits, and open new doors to learning. Parents do all of these things as well. As a parent, keep in mind your role as a teacher to your children. Learn what to expect at given age intervals. Know what behavior is normal, beneficial, or harmful in the long run. Here are some tips and facts about child development:

Don't encourage "cute" behavior, such as baby talk, when you know it won't be cute later on; learn to ignore it. Did you know that "sucking" is not harmful? It does not cause dental deformation, except in unusual cases. If your child has a favorite object, such as a blanket or teddy bear, it is not an indication of any special behavioral problem at any age. Babies understand hundreds of words before they can say one — so watch your language! The average attention span of a two-year-old is four minutes. Most school-age children bite their nails, some chew or tap their pencils, and many can't sit still.

Young preschoolers have active imaginations; they often invent imaginary playmates. This is not a deterrent to growing up. As they grow into their teens, your children will continue to develop their own identities and personalities, which will involve questioning and testing your limits. Be understanding, be interested, and — like a good teacher — balance yourself between reasonableness and firmness.

Playing by the rules

As you learn more about normal childhood development, you can set behavioral limits that are reasonable for your child's age. Let your child know these limits, and apply your rules *consistently*. Develop methods of carrying out your rules with little or no use of physical punishment. Rewarding good behavior and praising new skills are just as important as punishment for wrong-doing. This holds true for toilet training, eating, sharing with others, etc. If you're on the right parenting track, your child will gradually learn what is right and wrong. You will begin to see that most of the time he gets along with others and can play without hitting and destroying. The success you achieve here will pay off as you prepare your child for school.

Love yourself, love your child

Children learn from watching you and often they sense mor than they can see and hear. In other words, if you don't fe good about yourself (for whatever reason) those negative feel ings can affect your child. If you have problems with anger guilt, or low self-esteem, seek professional help for you child's sake, as well as your own.

Remember that children need respect. They need to b loved, guided, taught, listened to, and shared with. A children, whether basically healthy or chronically ill, deserv good preventive health care, good nutrition, a safe an healthy environment, and most of all, good parenting.

Is there an "Owner's Manual"?

Despite occasional misgivings and a lack of experience, mos of us will do just fine as parents — even though we ma sometimes wish that the baby had come with an "Owner Manual"! In fact, there are many places for you to turn t find good advice about raising your child. Your physician is of course, an excellent source. Use your regular office visits a opportunities to learn more about proper nutrition an feeding, development, safety, discipline, and other concern you may have about parenting.

Your local library or bookstore can provide many usefu publications on childrearing. Additionally, your child's physi cian can provide you with a wide variety of helpful material produced by the American Academy of Pediatrics, whic cover all aspects of care for the well child. Parenting group set up by local hospitals or schools can also be sources of ad vice and information.

Remember that no precise answer exists for every parentin question. Every parent and child will respond a little dif ferently to new situations. But the more you learn abou child development and child-raising, the more confident relaxed, and effective you will be. Trial and error are always part of the parenting process, as well as eventual growth an maturity.

With a little help from the other members of your well chil team — health care providers, teachers, relatives, and friend — and with patience, humor, and a lot of love, you ca become a successful parent. And how will you know if you'r "doing it right"? When your child is happy, healthy, full o life and love, you'll know. Those are the signs of a well child and of a good parent. Good luck — we know you can do it

This information has been compiled by Brenda M. Cruikshank, M.D., with assistance from Lois Dusdieker, M.D., and Anne Hartson, R.N., C.P.N.P., all of whom are associated with the Department of Pediatrics, University of Iowa College of Medicine, Iowa City, Iowa. This folder is a project of the Iowa Chapter, American Academy of Pediatrics.

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Anxious patients improve in just a few days



And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility. Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules, knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

...that's one of the unique benefits of

Valium®

diazepam/Roche

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For a summary of product information, please turn the page.

ROCHE®

Valium® (diazepam/Roche) Ⓝ Tablets
Valrelease™ (diazepam/Roche) Ⓝ slow-release Capsules
Injectable Valium® (diazepam/Roche) Ⓝ

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> ***Usage in Pregnancy*: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

ROCHE®



COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

HEALTH CARE DOLLARS

"A LONG AND BENEFICIAL reach towards better health and a better quality of life for the American people are the most important accomplishments of American medicine."

James H. Sammons, M.D., executive vice president, American Medical Association, makes this statement in an article which appears in this issue. Dr. Sammons analyzes health care expenditures in terms of overall benefit to the population. Frequently, when a particular instance of patient care has been notably expensive, a critic will concentrate his arguments on this isolated case. Sight will be lost of the broad general advances which have been made in medical service and technology.

Newly released life expectancy figures show some gratifying progress. They illustrate the achievement we are making in extending the length and improving the quality of life. We applaud this good news and accept the challenge to press forward.

Often, when governmental backing is furnished to an individual in meeting a health care need, the patient feels "he had it coming in return for taxes paid." Yet, when it comes time to pay these taxes it is common to complain loudly about how much they are.

As lawmakers authorize more and more spending, they exacerbate the eternal money-source dilemma. We cannot expect to cut government spending and reduce taxes without returning to the private sector and to individual citizens some fiscal responsibility for what they incur in health care costs or any other governmentally-funded service for that matter.

Dr. Sammons does an admirable job of bringing some of this into perspective in his article. We invite you to read it. — M.E.A.

A CHILD SO SHORTLY

PROCLAMATIONS by President Reagan and Governor Branstad recently heralded October 3 as "Child Health Day." This joint action underscores the feelings we have about the welfare of children. We know that better child health care will mean healthier citizens tomorrow.

Today's children live in troubled times. This is the consequence of social and other factors. Job insecurity, catastrophic illness and divorce are among the main reasons for this turmoil. The coping mechanisms of our young people are tested in many instances.

This recent "Child Health Day" focused attention on continuing programs in maternal and child health, immunization, alcohol and drug abuse, as well as the control of sexually-transmitted diseases. Our state and nation recognize these problems, and while the wheels of bureaucracy sometimes turn slowly, much good has been achieved. More must and will be done. Whatever we do now will certainly impact on the well-being of the child-turned-adult.

Rearing children is not a simple task. Parents assume the job of shaping the lives of one or more offspring when these little ones are weak and vulnerable. Few other tasks carry such awesome responsibility. And we confront the job with little or no experience in child rearing. As a pediatrician, I am constantly amazed at how beautifully most young parents accept their responsibilities. There is truth to the adage, "ignorance is bliss," for in their innocence young parents seek and accept advice and counseling quite readily.

Society provides innumerable resources to help parents. With only a bit of initiative young

(Please turn to page 458)

parents can locate information to assist them in raising their youngsters.

We must not become comfortable and complacent about our supportive programs. And most of all, we need personally to be examples of positive living to show children a proper pattern. Poor health habits, use of tobacco and alcohol, the bending of social laws to achieve personal desires, and the frightful use of drugs all impact negatively on impressionable youngsters. If parents cannot or will not be good role models, then social forces must be brought to bear upon them. If questionable actions are not detected early, then the prospect of a correctional or penal involvement is ever present.

In this issue there is a 4-page folder with tips on rearing children. It is not an all-inclusive document. But it may stimulate its readers to adopt better child-rearing practices. We need to be as sharp as we can in those few years when our children are developing.

We can agree with the 1963 comment of then President John F. Kennedy when he said, "The needs of childen should not be made to wait."

For several years the JOURNAL OF THE IOWA MEDICAL SOCIETY has included in its November issue one or more items of educational interest and benefit to the general population, as well as physician readers. We thank those who have helped us prepare this material. In previous years we have asked physicians to place this issue in reception areas for reading by interested persons. Again, we request you to make this issue available for others to read. — M.E.A.

WHAT'S A LEVO-DELTOIDOMYOLOGIST?

THERE IS NO specialty in the practice of medicine so restricted or limited to deal only with the left deltoid muscle. We concocted this term only to draw particular attention to a special health education folder included as part of this issue.

Most people, not everyone though, know what a general surgeon does, or what type of practice is conducted by a family physician, but fewer know about an oncologist or a neonatologist.

For the benefit of persons who want to know about a physician in a specific specialty area, we have prepared this 4-page folder to provide at least an idea.

We are indebted to the Patient Education Committee of the Department of Family Practice at the University of Iowa College of medicine for excellent help in compiling this glossary of medical specialists. — M.E.A.

Letters to the Editor–

DOWN WITH CARTOON COVER

Dear Editor:

I find the cover of the September 1983 JOURNAL to be in poor taste. I think that it reflects an archaic concept promoted in the early days of utilization review and propagated by hopefully a smaller and smaller group of physicians who fail to realize that cost containment is going to be vital to the very survival of our health care system.

Regardless of the merit of the articles on the inside of the JOURNAL, placing this cartoon on the cover of the magazine fuels the flames of those who would continue to ridicule a bulky and imperfect system without offering any viable alternatives. I think that the editorial board of the Iowa Medical Society Journal should consider the impact of placing such a cartoon on the front cover of their magazine. — *Dean McGinty, M.D., Muscatine, Iowa*

SEPTEMBER COVER

Dear Editor:

The September, 1983 cover picture of your journal belies a common prejudice of physicians. I do not think the public display of this kind of rather blind prejudice is in the best interests of either the Iowa Medical Society or

(Please turn to page 460)

In vitro studies demonstrate

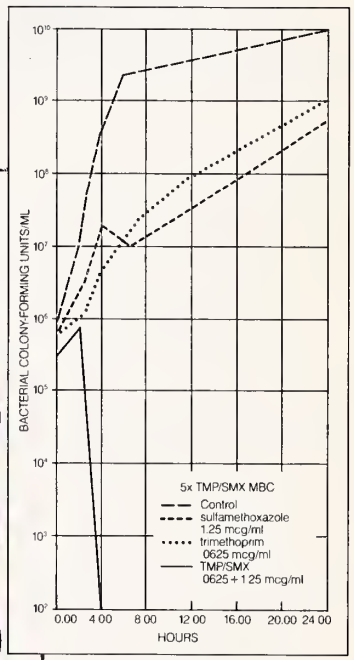
Bactericidal activity with minimal resistance

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials

	Escherichia coli	*Klebsiella pneumoniae*	*Proteus mirabilis*	*Proteus vulgaris*	*Proteus* sp.	*Enterobacter* sp.	*Enterobacter aerogenes*	*Enterobacter cloacae*
BACTRIM	**96%** 328,598	**89%** 63,551	**93%** 62,691	**84%** 4174	**91%** 4381	**88%** 1736	**96%** 7326	**92%** 11,856
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofur-antoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI* *



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro*.[1]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.* Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spicehandler J *et al: Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumfitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Iravani A *et al: Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. *Pregnancy:* Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

References:
1. Stone PH, Turi ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104:672-681, September 1982.
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980.

BRIEF SUMMARY

PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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Pfizer LABORATORIES DIVISION
PFIZER INC

"I can do things that I couldn't do for 3 yrs. including joining the human race again."



Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA *brief summary on adjoining page.*

Motrin®
ibuprofen, Upjohn
600 mg Tablets



More convenient for your patients

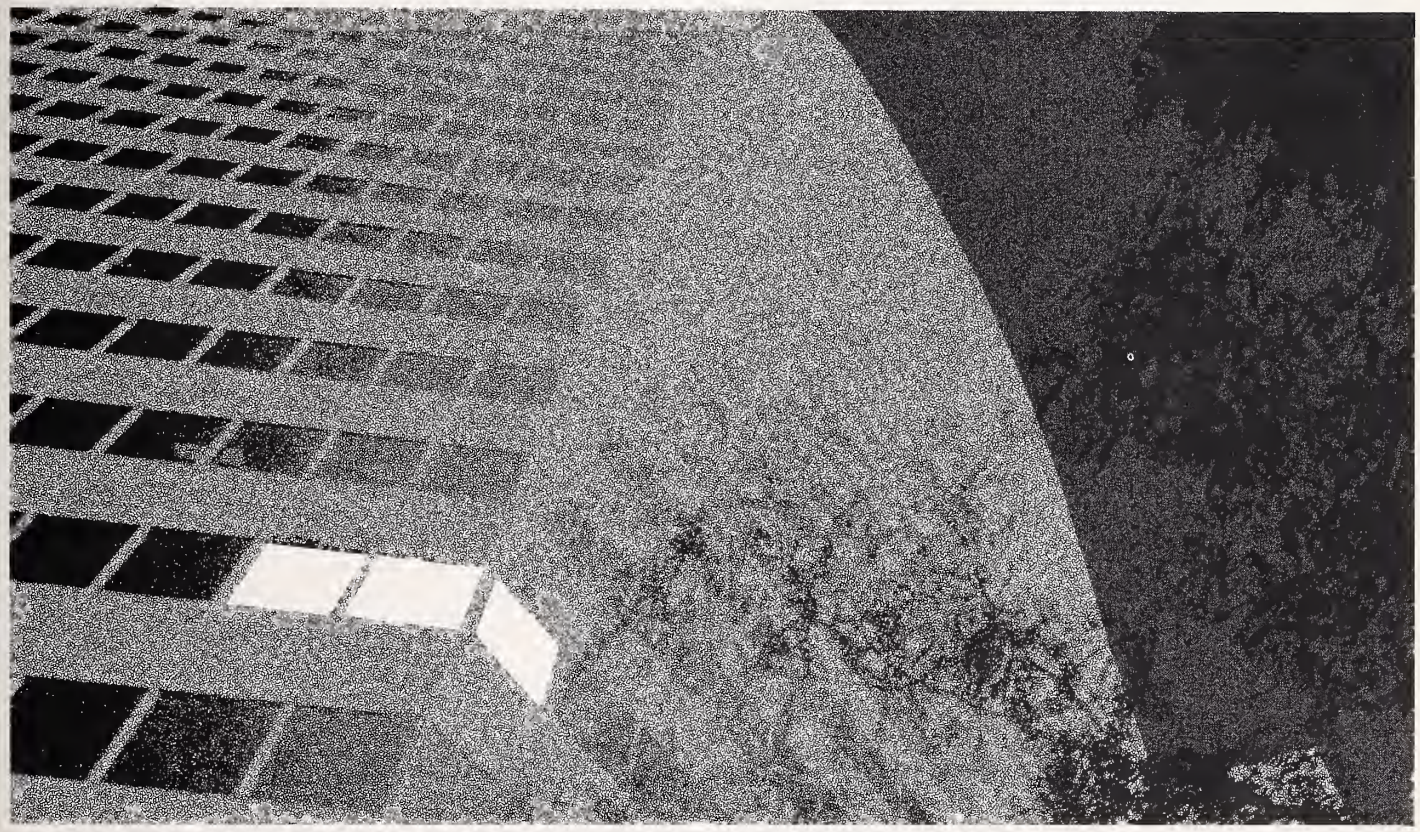
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J-9043-4 July 1981

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LETTERS TO EDITOR

(Continued from page 458)

physicians in general. The underlying assumption of your cover is that the best interests of patients will not be served by DRG's. It certainly represents a change in the orientation of medical payment but does not, in my view, necessarily represent a change for the worse. Physicians for a long time have been able to get by with occasionally minimal documentation of why a patient needs to be in the hospital or also important documenting all of his medical problems contributing to his hospital stay. With careful attention to both of these issues, I believe the DRG's will not represent a threat to the compensation of physicians or hospitals.

As chairman of our local utilization review committee who has an interest both in trying to establish and maintain liaison with our local physicians, as well as to provide cost effective medical care along the lines set up by the I.F.M.C., I cannot help but regret the publication of this cover as it will further muddy the water. I don't think physicians have much choice other than to become conversant with and to live as best they can with the DRG's but because it is different, does not necessarily mean that it is bad nor that patient care will necessarily suffer. — *John Allhiser, M.D., Wilton, Iowa.*

FAVORABLE RESPONSE

Dear Editor:

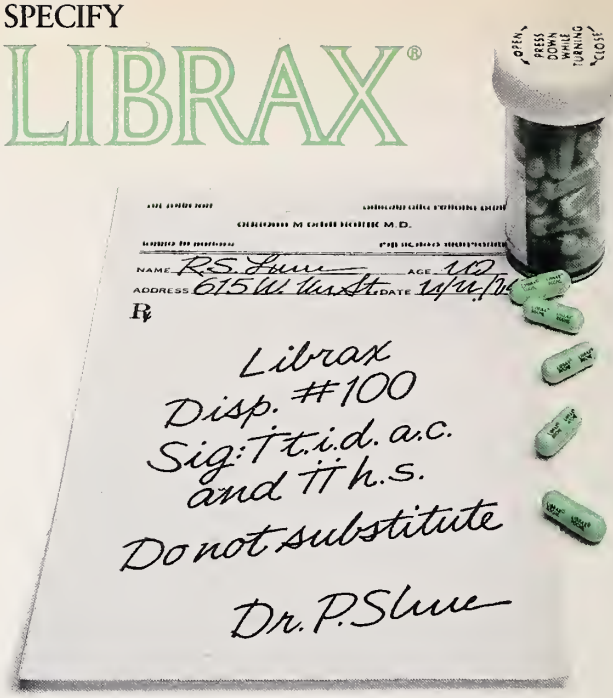
Recently I asked your permission to use the cartoon from the cover of the September 1983 issue of the JOURNAL OF THE IOWA MEDICAL SOCIETY in the monthly newsletter of the medical library here at the hospital. The newsletter had hardly left my hands before I had a favorable response to the cartoon! The recipient had also noted the reference to the Iowa Medical Society — so it was a good public relations gesture for you as well as an informational tool for me.

I am enclosing a copy of the newsletter so that you may observe the use of the material requested as we agreed in our telephone conversation when I made the request.

Thank you for allowing me the use of this material. — *Wanda F. Kincaid, Medical Librarian, VA Medical Center, Knoxville, Iowa*

SPECIFY

LIBRAX®



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium bromide

Please consult complete prescribing information, a summary of which follows:

* **Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.
Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.
Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE®
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LIBRAX®
TO BE SURE... SPECIFY THE BRAND CLEARLY



SO YOUR PATIENTS GET ALL THE BENEFITS OF WHAT YOU PRESCRIBE FOR THEIR PEPTIC ULCER OR IRRITABLE BOWEL SYNDROME

Although generic pharmaceuticals may have active ingredients like those of the brand-name product, generics may use different manufacturing methods.

By specifying Librax when you write prescriptions for your patients with irritable bowel syndrome and duodenal ulcer,* you can be sure that each dose will provide the needed effect. Librax provides the antianxiety actions of Librium® (chlordiazepoxide HCl/Roche), which has a proven record of safety and efficacy. And working with the antianxiety effect of Librium are the antisecretory and antispasmodic actions of Quarzan® (clidinium bromide/Roche). Thus, when you prescribe Librax, your patients are also assured of specific medication against hypersecretion and hypermotility.

*Librax has been evaluated as possibly effective adjunctive therapy in the treatment of irritable bowel syndrome and duodenal ulcer. Please see summary of prescribing information on the preceding page.

SPECIFY ADJUNCTIVE

LIBRAX®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium bromide.

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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

A RIPE OLD AGE

SHE HAD LIVED with us since she was very young, so that made her seem like one of the family. Even in her presence we would occasionally refer to her "adoptive" status, but she never acknowledged by any sign at all, even when her hearing was normal, that she felt any less loved or welcome than the rest of us. She too had watched the children grow up and move away. Joyful at their return visits, but nurturing her feelings silently, she was peacefully resigned to their long absences.

She had had a few friends of her own, but now there was only one left, who brought obvious delight on her infrequent visits. Her voice seemed little changed through the years but occasionally she used it too much, or especially, at the wrong times of the day or night. Her garrulousness on early waking was a special vexation to the rest of us.

Eating was never much of a problem — her tastes had always been broad, although lettuce, a few other vegetables, and gourmet delicacies, unless sweet, seldom seemed to entice. Elimination, though — that was another matter. It had become impossible to determine whether at least some of her increasing episodes of incontinence might not have been willful. The evidence on that point was never certain enough to justify much confrontation or debate — and especially since her total deafness had put an end to all communication that depended on audition. Even worse was the dimming of vision that now made ambulation an increasing problem. That and the arthritis. Getting around after first rising was ever more uncertain, that was clear, and negotiating steps had now become a sometime thing.

Watching television was a great bore to her, although keeping company with those who watched seemed pleasing. To play cards was unthinkable. And the modern penchant for jogging would at times actually upset her, although occasionally she would indulge in brief episodes of running. It was as if her body assured her she could live to a ripe old age even after an exceedingly sedentary life.

She enjoyed sitting out on a warm day, but cool weather and especially the rigors of winter were never her cup of tea. That inclination toward finding the warmest possible place might have raised a suspicion of hypothyroidism, but there were no other signs of it. And although her skin didn't seem dry, the customary excrescenses of age had been blossoming more and more these last few years.

"There was never a way to tell if she felt any lament over her long gone youth. One of her most winning characteristics was her disinclination to complain."

There was never a way to tell if she felt any lament over her long-gone youth. One of her most winning characteristics was her disinclination to complain. She was lucky, having that rare capacity for joy that often spread to all of us, and even to casual visitors. We occasionally wondered if her inability to have children and her precociously diminished sexuality brought her any grief, or if not that, at least wistfulness. But we couldn't know for sure, and attempts to inquire always proved unavailing. The almost constant sparkle in her eye seemed to say no.

She was one of us, that was certain. For whatever time remained to her, she would stay with us, and we with her. We could sense the time was growing short, but that seemed not to enter her mind. For years now friends coming to call would remark on her increasing greyness, but hardly anyone who did not know the truth would guess that our little dachshund was in her eighteenth year.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

House File 196: A cure-all for Iowa's ailing health care system?



Blue Cross and Blue Shield of Iowa have long been at the forefront in solving Iowa's health care system dilemma.

And, we shall continue to develop and advocate the responsive and cooperative implementation of programs to better serve the needs of both the recipients and providers of health care.

Many people do believe Iowa's health care system has been ill. It *is* true that utilization has outstripped national averages and costs have soared. As a result, Iowa's legislators have now become involved by writing a "prescription" to help effect a cure — the omnibus health care bill, House File 196.

Part of this new act calls for a change in the make-up of the Boards of Directors of Blue Cross and Blue Shield of Iowa. An interim legislative committee recommended a simple majority of subscribers. The general assembly, however, mandated a two-thirds subscriber majority, plus some very specific nominating provisos.

(Iowa physicians will be able to nominate by petition subscribers who sit on our Boards, and will continue to nominate and elect their peers who will comprise the remaining one-third of our Boards.)

House File 196 is strong medicine. And although we believe portions of the law can help effect a cure in Iowa, it is not a cure-all.

Of course, we shall comply.

We shall also strive to maintain our positive and progressive relationships with Iowa's physicians, and to achieve our common goal — that of providing quality health care at affordable cost for all Iowans.

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QUESTIONS - ANSWERS

MRS. JOHN ANDERSON
Boone, Iowa

IMS AUXILIARY UPDATE

Elaine Anderson is the wife of an active family practitioner in Boone, Iowa. She is also an active person, serving this year as president of the Iowa Medical Society Auxiliary. Her comments here indicate the IMSA is moving forward ambitiously.

It seems the Iowa Medical Society Auxiliary is doing more interesting and worthwhile things each year. Would you agree?

To say we have more interesting and worthwhile programs is to say we are reflecting the changing attitude of society and its growing concern for good health. We are fortunate to live at a time when people are accepting more responsibility for their health. We are receiving greater response to the health programs offered by our Auxiliary. With more education, we know there is a potential to substantially reduce and/or prevent illness and suffering.

What are the reasons for having an IMS Auxiliary?

We exist primarily to assist the Iowa Medical Society in programs to improve the health and quality of life of all people. We coordinate and offer advice on the activities of our county organizations. Health education is a prime concern, and we encourage the participation of volunteers in activities that meet health needs.

What particular areas are receiving emphasis from the Auxiliary at this time?

We provided a dynamic "Quality of Life Symposium" in October. It was a good example of our work in promoting healthy lifestyles. In response to a request from the IMS, we included a program to increase awareness of the impact of the troubled physician. Other emphasis was placed on children and youth, specifically child abuse, alcohol and youth, and stress within the family unit.

Our continuing concern for comprehensive health education in the schools (K-12) has us in a stage of analysis of the four regional conferences recently completed. Another form of health education in which we are involved is a coalition effort with the Cancer Society involving state-wide distribution of materials pertaining to early breast cancer detection. Individual counties have many worthwhile programs covering specific needs.

As 1983-84 president of the Auxiliary, what do you see as the role of a medical auxiliary member in the home community?

The beauty of diversity gives strength to our organization. Our members range widely in background as to education, age, family, profession and social interests. This makes it necessary to think of our role in general terms. The concern for love and support within our own home and family must be a priority. Then I would say, it is important for the physician's spouse to be in the mainstream of community life. Be curious and knowledgeable about all that is around you, including the professional interests of your spouse. Be sensitive to health-related concerns and use the resources open through membership.

Do you feel good generally about the way Auxiliary members support the efforts of the medical profession?

The good feelings I have about our supportive efforts come from two sources; my visits with our county organizations and the favorable manner in which our progress reports have been received by the IMS Executive Council. We seem to be effective in a positive way . . . but there is room for improvement. We need to increase our service potential by increased membership in critical areas of the state. We are striving to accomplish this. Also, we share a concern about the forces shaping the future of health care. Extra effort must be made in the area of legislation. I would urge all physicians to encourage their spouses to become involved in political action and the legislative process.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

ROBERT J. ROBERTS, M.D., Editor

CHRONIC AFTERLOAD REDUCTION IN THE TREATMENT OF CONGESTIVE HEART FAILURE

THE TREATMENT of advanced chronic congestive heart failure (CHF) is difficult. However, over the last 5 years, it has been appreciated that agents which reduce peripheral resistance (or "afterload") can acutely increase cardiac output in normotensive patients with CHF. As a consequence, "vasodilators" have become widely used in the treatment of heart failure. This article will review the rationale and efficacy of the 3 intensively studied and widely used "afterload" reducing agents: prazosin, hydralazine, and captopril.

Cardiac output has 4 major determinants: contractility, heart rate, the diastolic volume or "preload," and the ejection tension or "afterload." Preload is determined largely by the venous side of the circulation and is altered by such factors as venous capacitance and total blood volume. Cardiac afterload is determined by left ventricular volume and aortic impedance, a reflection of arteriolar resistance and arterial compliance. It is now clear that the damaged left ventricle is exquisitely sensitive to alterations in aortic impedance (See Figure 1). Furthermore, in heart failure, reflex activation of the sympathetic nervous system and the renin-angiotensin axis tends to elevate peripheral resistance and results in further decompensation of pump function. Thus, afterload reduction in the failing heart results in an increased stroke volume with (theoretically) no reduction in systemic arterial pressure (i.e., without the hypotensive effect these agents would cause in the normal state).

Prazosin, hydralazine, and captopril all act to reduce afterload by reducing peripheral resistance: prazosin, by acting as a peripheral α_1-adrenergic receptor blocker; captopril, by reducing angiotensin II levels; and hydralazine, by a direct effect on vascular smooth muscle. They also cause varying degrees of preload reduction, with prazosin and captopril having the greatest effect, and hydralazine having little or no effect. With the clear evidence that these agents acutely increased cardiac output in patients with heart failure, these drugs have been intensively studied in chronic treatment settings.

Hydralazine has been widely studied and is commonly used in this regard. It was initially appreciated from experimental models that hydralazine administration resulted in an acute increase in cardiac output in the failing heart without a hypotensive effect. This observation was reproduced in man by several investigators and formed the rationale for chronic studies in man. These early studies uniformly demonstrated a sustained beneficial effect of chronic therapy.[1-3] However, the nature of the proof was based on hemodynamic data and "soft" clinical observations [e.g., New York Heart Association (NYHA) class] and were not placebo controlled or "blinded." The implicit assumption in these studies was that the course of chronic congestive heart failure was progressive and that spontaneous improvement did not occur; if true, these assumptions minimize the value of placebo-control, randomization, or blinding. On the basis of these well-publicized investigations, it has been widely accepted that hydralazine is, in fact, an effective agent in the treatment of

(Please turn to page 468)

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

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(Continued from page 466)

chronic congestive heart failure (although without FDA approval).

Two recent controlled studies have raised serious doubt regarding the efficacy of chronic hydralazine therapy. Franciosa and his colleagues conducted a double-blind, placebo-controlled study of 32 patients with chronic left ventricular failure, followed for up to 6 months.[4] They demonstrated that long-term vasodilator therapy with hydralazine was not significantly more effective than placebo in patients with chronic heart failure. In a Scandinavian trial, Conradson, reporting on preliminary results of a multicenter double-blind study, showed that after 6 months of treatment with hydralazine, there was approximately a 15% improvement in patients treated with hydralazine over placebo.[5] However, he noted that this small difference between patients who received placebo or hydralazine treatment was obscured by a much larger, sustained placebo effect, accounting for approximately a 35% improvement in the control group. These recent, controlled studies clearly indicate only marginal efficacy of hydralazine, and further, they suggest that, in the previous uncontrolled studies, the apparent benefit from hydralazine might have been largely due to "placebo effect."

The long-term efficacy of the α_1 antagonist prazosin in the treatment of chronic heart failure is similarly suspect. Several short-term, double-blind, placebo-controlled trials have shown a beneficial effect of prazosin therapy for up to 8 weeks.[6, 7] The improvements were significant but small. A third, placebo-controlled, double-blind randomized crossover study showed an acute benefit but noted marked attenuation of effect over 4 weeks of therapy.[8] Recently, Markham and his coworkers reported on a longer, controlled trial of 6 months of treatment in 23 subjects with stable class 3 NYHA symptoms randomized to prazosin or placebo therapy in a double-blind study.[9] There was no significant difference in either clinical signs of failure or exercise tolerance. Thus, long-term prazosin therapy resulted in no objective improvement.

Captopril, an angiotensin-converting enzyme inhibitor, has only recently been used in the treatment of congestive failure. It is believed to act by blunting the reflex stimulation of the renin-angiotensin axis, which contributes to inappropriately elevated peripheral resistance in patients with left ventricular failure. Relative to the other agents discussed, captopril has been less extensively studied; however, recent trials have suggested that captopril may prove to be a more useful agent in the treatment of chronic congestive heart failure. Kramer *et al* demonstrated a persistent beneficial hemodynamic and clinical response to captopril after 3 months of treatment in a double-blind, placebo-controlled trial of 16 patients with CHF.[10] This was associated with a 30% increase in exercise times, an increased maximal work load, and a persistent beneficial effect on left ventricular filling pressure and cardiac index. Thus, in the published controlled studies to date, captopril would appear to have the clearest evidence for efficacy in the treatment of CHF (and is the only one of the agents with FDA approval for this indication).

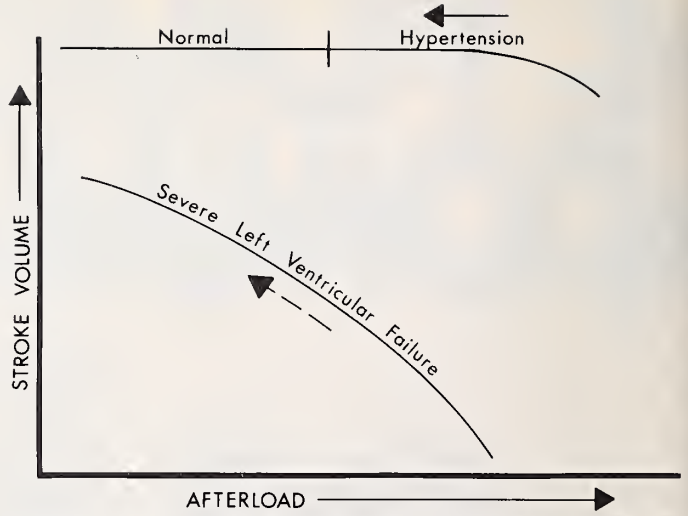
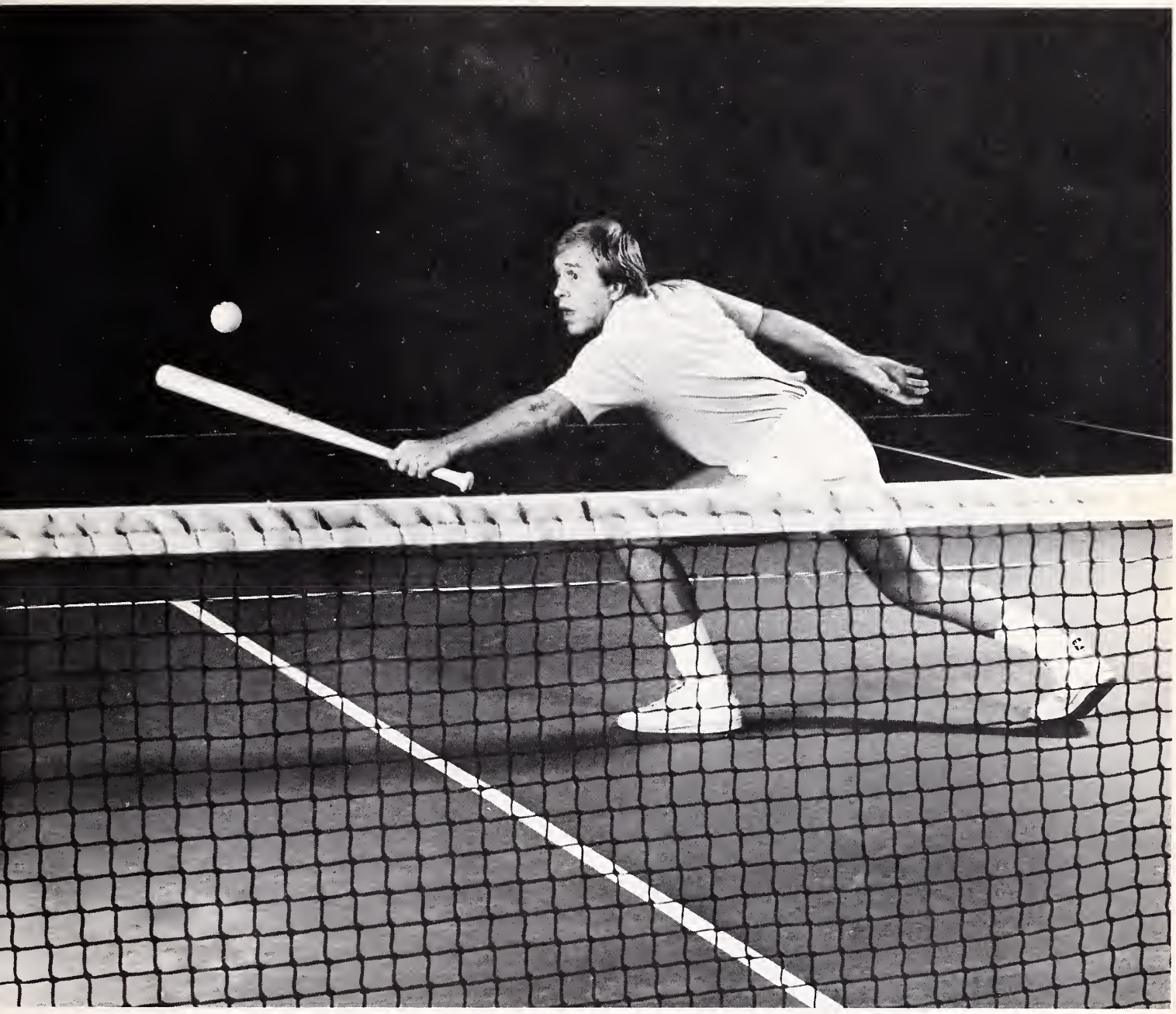


Figure 1. Relationship between afterload and stroke volume in the normal and failing heart. In the normal heart, stroke volume is maintained despite acute increases in outflow resistance well into the hypertensive range. The effect of afterload reduction on the normal cardiovascular system (⟵) is to lower systemic peripheral resistance without altering stroke volume. This results in a reduced systemic arterial pressure. In severe left ventricular failure, stroke volume is reduced with increasing afterload. Afterload reduction on the failing heart (⟵) thus results in an increased stroke volume. Systemic arterial pressure tends to be maintained despite a comparable reduction in peripheral resistance.

After oral administration, captopril is rapidly absorbed with peak blood levels in 30 to 90 minutes. Early hemodynamic alterations occur within 30 to 60 minutes after administration. In the fasted state, about 75% of the dose is absorbed, but taken with food, that is decreased to 30 to 40%. Captopril is approximately 30% protein bound and is widely distributed in most tissues except the brain. Clearance of

(Please turn to page 470)



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captopril is dependent upon both hepatic metabolism and renal excretion of unchanged drug.

In the treatment of chronic congestive heart failure, dosages range from 37.5 to 300 mg per day given in 3 divided doses. The upper maximum dosage tends to be limited by the hypotensive effect; however, there is also indirect evidence that some of the side effects are dose related, and furthermore, in one uncontrolled study, a comparable beneficial effect was evident at a maximum of 150 mg per day. The first dose should be given under supervision with the patient supine. Doses as low as 6.25 mg have been used initially. A sometimes dramatic fall in systemic arterial pressure may occur after the first dose which is rarely of clinical significance with the patient supine.

Clinical trials with captopril (mostly in the treatment of hypertension) show a relatively low incidence of adverse effects. Some, however, can be serious and lethal. Neutropenia has been reported in approximately 0.3% of patients and usually develops within 3 months of initiating therapy. Agranulocytosis has been observed in several cases. Proteinuria occurs in about 1.2% of patients with progression to nephrotic syndrome in 0.3%. Rashes, occasionally associated with fever and eosinophilia, occur in about 10% of patients and may be dose related. Loss of taste occurs in approximately 6%. A hypotensive effect is almost universal in these patients, which may be clinically significant in about 15% of patients.

The average cost for one month's treatment at the maximum dosage (100 mg 3 times daily) is $75.09.

In conclusion, prazosin and hydralazine do not appear to be effective agents for the treatment of chronic congestive heart failure, despite their widespread use for this indication. Captopril, on the other hand, may be a useful agent in the treatment of chronic left ventricular failure refractory to conventional treatment (i.e., diuretics, dietary sodium restriction, control of coexisting arrhythmias, etc.). However, captopril therapy is associated with some significant side effects which must be monitored closely and is a relatively expensive drug which may cost your patient up to $1,000 per year. Furthermore, it must be noted that despite its apparent efficacy in the symptomatic treatment of congestive heart failure, neither captopril nor any other agent has been shown to favorably alter the natural course of left ventricular failure.[11] Thus, mortality from advanced CHF, which may be as high as 70% at one year follow-up, is not changed, regardless of the symptomatic response to therapy. — *Ross Feldman, M.D., Assistant Professor of Medicine and Pharmacology*

Minnesota Medical Association
Resource Group on Rheumatic Diseases

Presents

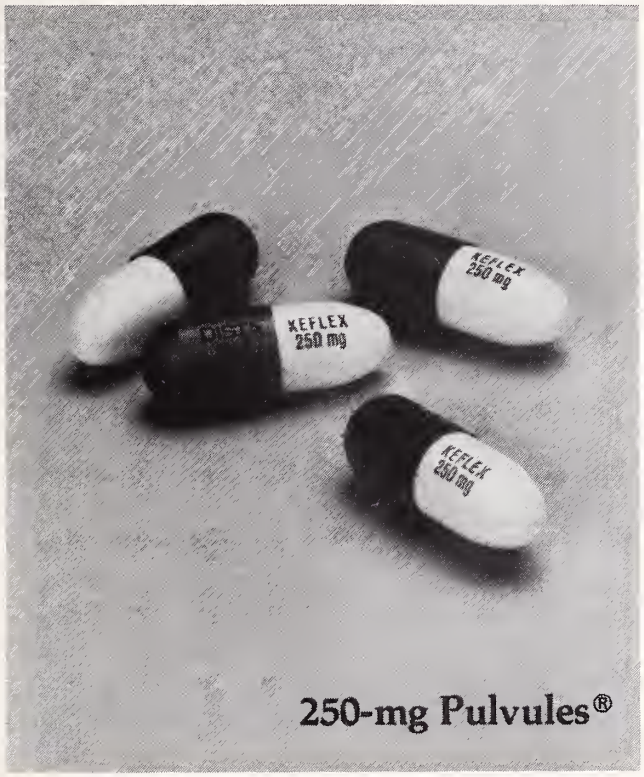
RHEUMATOLOGY SEMINAR V
March 6-13, 1984

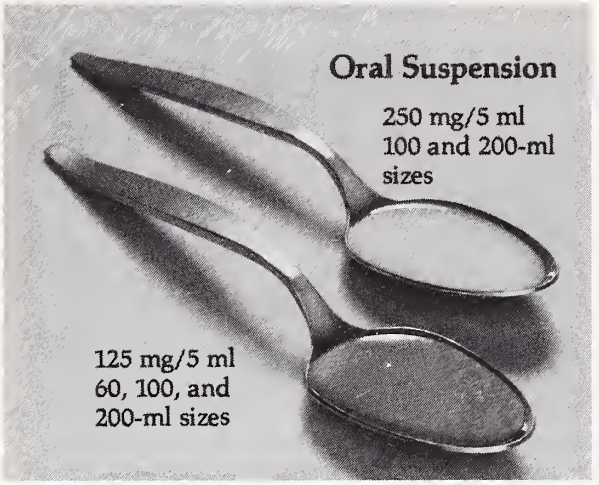
LOCATION: Paradise Grand Hotel, Nassau, BAHAMAS.
DATES: Departure from Twin Cities Airport on Tuesday, March 6. Return to Twin Cities on Tuesday, March 13. Educational program — March 7-11
FEE: $285 (educational program). Approximately: $1,378 per physician/$324 per accompanying spouse or child (includes round-trip flight, ground transportation and accommodations for seven nights)
AUDIENCE: Primary care physicians and physicians who are involved in the care of arthritic patients
FACULTY: From the University of Minnesota and the Mayo Clinic
CONTENT: Common rheumatologic problems, diagnosis, treatment and the course of the disease
HOURS: 20 hours, Category I/Prescribed
CONTACT: Department of CME and Meeting Services, Minnesota Medical Association, Suite 400, 2221 University Avenue SE, Minneapolis, Minnesota 55414, 612/378-1875.

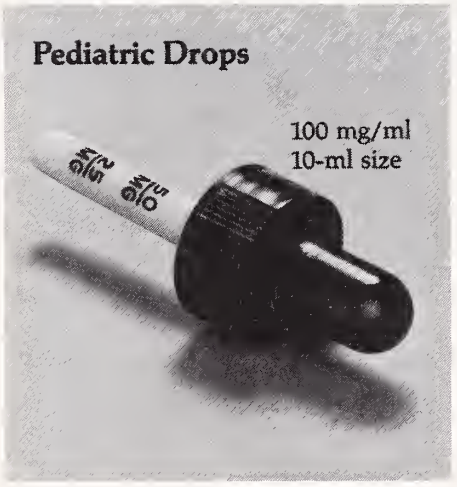
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STATE DEPARTMENT/ PUBLIC HEALTH

DEAF SERVICES OF IOWA DIVISION OF COMMUNITY HEALTH

Deaf Services of Iowa (DSI) was established in 1975 as a program within the Community Health Division of the Iowa State Department of Health. DSI advocates, coordinates and implements statewide services for hearing impaired Iowans of any age or ability by: 1) assuring that health, social, mental health, personal, legal and related services are accessible; 2) establishing and maintaining cooperative relationships with existing public and private agencies and organizations to assist them in making their services accessible and conveying to them the nature of hearing impaired persons' needs, and 3) planning and implementing specialized programs and/or legislation which will provide aid to hearing impaired persons that no existing agency provides. The initial focus is on individuals who 1) have been deafened since early childhood; 2) communicate via sign language, and 3) usually face the most difficult assimilation into society because communication accessibility is limited or nonexistent.

State appropriations support the following staff positions: director, assistant to the director, receptionist, chief psychologist, counselor, interpreter consultant for external affairs, and 3 sign language interpreters.

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

Program statistics from the last biennium show that DSI received more than 15,000 requests for deafness-related information. This demonstrates a strong interest on the part of both hearing and hearing impaired Iowans. Program components include:

- *Direct sign language interpreting services to aid communication between hearing impaired and hearing persons at no cost to either party.*
- *Interpreter referral services to arrange for freelance interpreters in local communities to handle requests when a DSI staff interpreter is unavailable during regular working hours, for settings DSI does not handle, or for most evening and weekend assignments.*
- *Advocacy, consultation and referral services in any situation involving a hearing impaired person in need of assistance and/or information.*
- *Mental health services to hearing impaired persons and their families by a professional trained and experienced in counseling and sign language. Consultation with other counseling professionals is available.*
- *Distribution of "Sign of the Times," a free quarterly newsletter, to interested hearing or hearing impaired persons.*
- *Library on Deafness, with books and other materials available for loan to all interested persons.*
- *Public speaking on deafness-related topics on a limited basis to interested hearing impaired and/or hearing groups.*
- *Distribution of information and literature on various aspects of deafness to the public upon request.*
- *Coordination, referral, and/or limited teaching of sign language classes throughout the state.*
- *Tabulating the numbers of deaf Iowans for an Iowa Census Registry and collecting descriptive population data to assist with the planning or improvement of services to hearing impaired Iowans.*
- *Assistance with the promotion and/or development of necessary legislation to better the lives of hearing impaired Iowans.*

DSI's newest program component is DSI News Break, a part of News Line — Iowa Public Television's continuous, moving, printed text service — which brings the Iowa hearing impaired community current international, national, and state news, sports and weather from United Press International.

This free service was inaugurated by Gov-

ernor Terry Branstad in June and is shown statewide on Iowa Public Television broadcast signals. By utilizing a telecaption decoder attached to any television set, the News Line service is decoded and viewed as captioning. The News Break segments are provided by DSI, with the focus on information of special interest to Iowa's hearing impaired community.

Closed-captioning is a relatively new innovation. The National Captioning Institute (NCI) was established in 1979 as a non-profit, single purpose corporation. Captioned programming actually began, however, in March of 1980. According to NCI, 70,000 homes in the United States are now equipped to receive closed-captioned programming, with a viewing audience of almost 300,000. New viewers of closed-captioned television are being added at a rate of over 4,000 monthly, with more than 40 hours of closed-captioned programming offered on networks, cable and in television syndication. To close caption a one hour program costs approximately $2,200, requiring about thirty hours to produce.

In terms of News Line, DSI feels this pioneering effort by Iowa Public Television is of great benefit to hearing impaired Iowans. This segment of the population — estimated in a national census, published in 1974, at 184,000 hearing impaired Iowans, 27,000 of whom are deaf — is interested in their world, yet their opportunities to be informed of current events are limited. For example, tune into the televised news some evening without benefit of sound, bearing in mind that as a hearing person, you have a good grasp of the English language and appropriate lip movement. Even with this obvious advantage, you will find watching the broadcaster's lip movement on your silent television screen a frustrating experience at best, yielding very little, if any, meaningful information. Through this exercise, you can gain a modicum of understanding what it is like to function as a hearing impaired person in our hearing world.

DSI serves as a clearinghouse, through this medium, for information impacting Iowa's deaf community, and we at DSI anticipate a greater number of hearing impaired Iowans will become aware and avail themselves of the many services provided by our program. — *Nancy Neal, Assistant to the Director, Deaf Services of Iowa*



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September 1983 Morbidity Report

Disease	Sept. 1983 Total	1983 to Date	1982 to Date	Most Sept. Cases Reported From These Counties
Amebiosis	1	33	58	Colhoun
Brucellosis	0	3	3	
Chickenpox	30	5544	5912	Scottered
Compylobocter	45	289	239	Scottered
Cytomegolovirus	1	11	36	Cerro Gordo
Eoton's Agent infection	0	102	192	
Encepholitis, virol	16	50	35	Scottered
Erythemo infectiosum	0	25	1153	
Gostroenteritis (GIV)	815	9360	12850	Scottered
Giordiosis	70	204	111	Scottered
Hepotitis, A	1	21	64	Johnson
Hepotitis, B	9	63	74	Scottered
Hepotitis, Non A-B	3	33	13	Allomokee, Polk, Woodbury
Hepotitis type unspecified	2	10	24	Cerro Gordo, Pocohontos
Herpes Simplex	131	770	330	Scottered
Herpes Zoster	0	6	10	
Histoplosmosis	3	15	14	Des Moines, Polk
Infectious mononucleosis	23	143	139	Scottered
Influenzo, lob confirmed	0	207	74	
Influenzo-like illness (URI)	1590	30297	29750	Scottered
Legionellosis	1	6	20	Tomo
Malorio	0	3	6	
Meningitis oseptic	42	113	59	Scottered
bocteriol	12	124	123	Scottered
meningococcol	1	15	9	Linn
Mumps	3	38	32	Hordin, Johnson, Linn
Pertussis	0	6	6	
Robies in onimols	8	169	321	Scottered
Reye Syndrome	0	2	5	
Rheumotic Fever	0	1	3	
Rubello (Germon meosles)	0	0	0	
Meosles	0	0	0	
Solmonellosis	63	258	231	Scottered
Shigellosis	10	41	52	Scottered
Toxic Shock Syndrome	1	15		Linn
Tuberculosis totol ill	9	55	56	Scottered
boct. pos.	7	39	41	Scottered
Typhoid Fever	0	0	1	
Venereol diseoses:				
Gonorrheo	539	3475	3571	Scottered
Syphilis	5	19	24	Horrison, Morsholl, Polk
Other Non-Reportable Diseoses:				
Rockey Mountoin Spotted Fever	0	0	0	

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Before prescribing, see complete prescribing information. The following is a brief summary.

DESCRIPTION: Each sustained release capsule contains 12 mg of Chlorpheniramine Maleate, USP and 75 mg of Phenylpropanolamine Hydrochloride, USP in a base to provide prolonged activity.

INDICATIONS: For the treatment of the symptoms of seasonal and perennial allergic rhinitis and vasomotor rhinitis, including nasal obstruction (congestion).

CONTRAINDICATIONS: Hypersensitivity to any of the components, concurrent MAO inhibitor therapy, severe hypertension, bronchial asthma, coronary artery disease, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction. Do not use in children under 12 years.

Do not use this drug in patients with narrow-angle glaucoma, obstructive or paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. Do not use in nursing mothers.

Use in treating lower respiratory tract symptoms, including asthma, is contraindicated.

WARNINGS: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients. Patients should also be warned about the possible additive effects of alcohol and other CNS depressants.

Usage in pregnancy: Safe use in pregnancy has not been established. Use only when the potential benefits have been weighed against the possible hazards to the mother and child. Note that an inhibitory effect on lactation may occur.

PRECAUTIONS: Use with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension, hiatal hernia with reflux esophagitis, intestinal atony of the elderly or debilitated intestinal obstruction, myasthenia gravis, renal function impairment, and ulcerative colitis (severe).

Drug Interactions: MAO inhibitors, Alcohol or CNS depressants, especially anesthetics, barbiturates, and narcotics.

ADVERSE REACTIONS: Prolongs the response to nervous stimulation, potentiates the response to norepinephrine, and inhibits the response to tyramine.

Slight to moderate drowsiness occurs relatively infrequently with Chlorpheniramine Maleate. Other possible side effects common in antihistamines in general include perspiration, chills, dryness of mouth, nose and throat.

Cardiovascular System: Hypotension, headache, palpitations, tachycardia, extrasystoles.

Hematologic System: Hemolytic anemia, thrombocytopenia, agranulocytosis.

Nervous System: Sedation, dizziness, disturbed coordination, fatigue, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, euphoria, paresthesias, blurred vision, diplopia, vertigo, tinnitus, acute labyrinthitis histeria, neuritis, convulsions.

Gastrointestinal System: Epigastric distress, anorexia, nausea, vomiting, diarrhea, constipation.

Genitourinary System: Urinary frequency, difficult urination, urinary retention, early menses.

Respiratory System: Thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

DOSAGE AND ADMINISTRATION: Dosage should be individualized according to the needs and response of the patient. Adults: one capsule every 8 to 12 hours not to exceed 3 capsules daily. Not for use in children under 12 years of age.

OVERDOSAGE: Treatment of the signs and symptoms of overdosage is symptomatic and supportive. In the event of overdosage, emergency treatment should be started immediately.

Treatment: The patient should be induced to vomit, even if emesis has occured spontaneously. Vomiting by the administration of ipecac syrup is a preferred method. However, vomiting should not be induced in patients with impaired consciousness. Stimulants (analeptic agents) should not be used. Vasopressors may be used to treat hypotension. Short-acting barbiturates, diazepam or paraldehyde may be administered to control seizures. Hyperpyrexia, especially in children, may require treatment with tepid water sponge baths or a hypothermic blanket. Apnea is treated with ventilatory support.

HOW SUPPLIED: Green and clear capsules with green and white beads. Bottles of 100 tablets. NDC 0524-0031-01

Store at controlled room temperature 15-30°C (59°-86°F.).

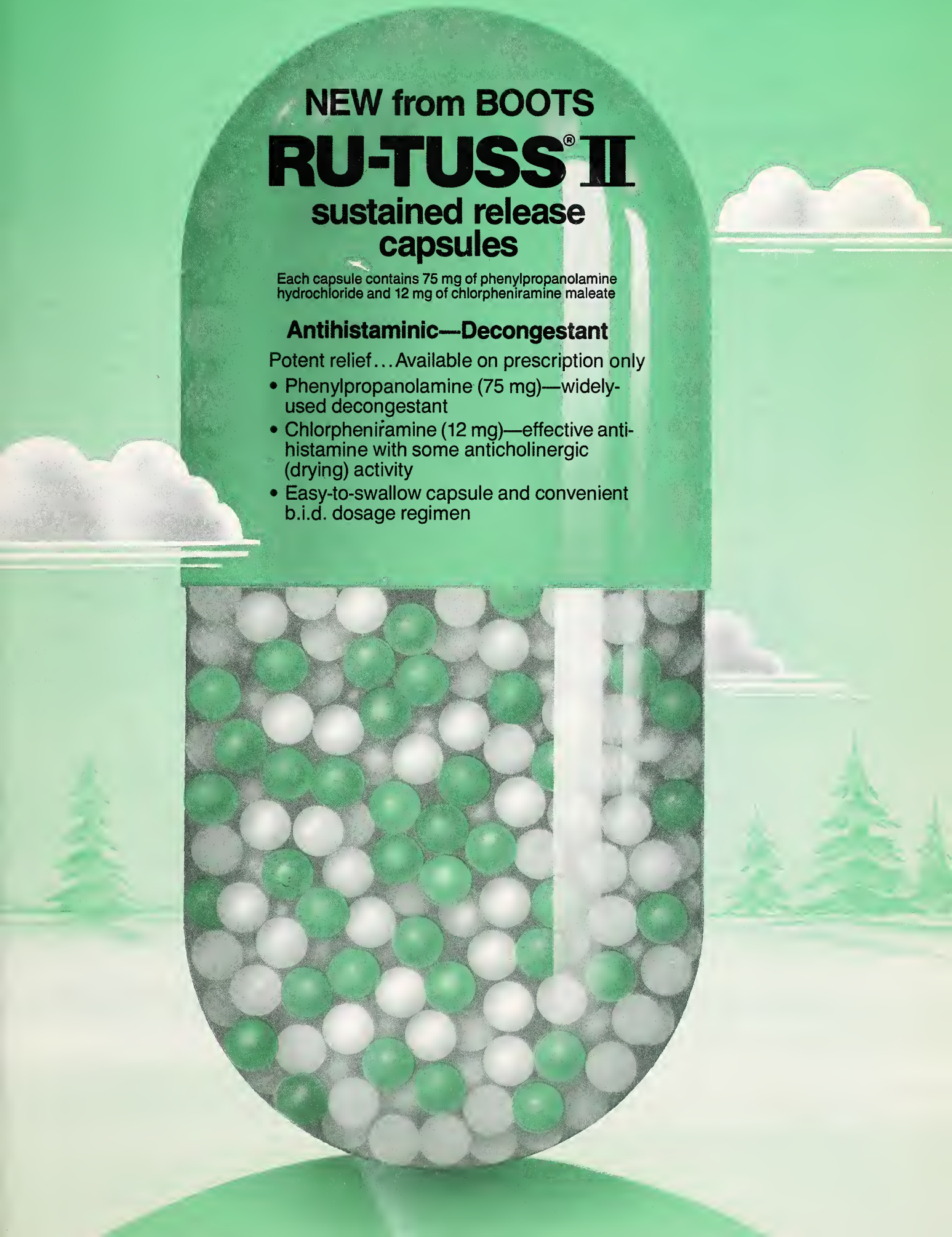
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ABOUT IOWA PHYSICIANS

Dr. John Schutter retired from medical practice in Algona in July. Dr. Schutter received the M.D. degree at the U. of I. and following Air Force duty during World War II he located in Mallard. He began his Algona medical practice in 1947. . . . **Dr. Mary S. Larew** recently joined **Drs. Stanley A. Hackbarth, Thomas G. Rosenberger** and **Peter D. Wallace** in Iowa City. An Iowa City native, Dr. Larew received the M.D. degree and completed her pediatric residency at the U. of I. . . . **Dr. Norman K. Rinderknecht,** Des Moines, recently was elected vice chairman of District VI of the American College of Obstetricians and Gynecologists. Dr. Rinderknecht is a past president of the Iowa Society, U. of I. Obstetrics and Gynecology Alumni Society and Iowa Methodist Medical Center medical staff. . . . **Dr. James Wille** recently joined **Dr. Joel D. Teigland** in Des Moines. Dr. Wille received the M.D. degree at the U. of I. College of Medicine; completed his pediatric residency at University of Kansas Medical Center and served a fellowship in pediatrics and adult allergy at Children's Mercy Hospital in Kansas City, Missouri, and University of Kansas Medical Center. Dr. Teigland recently was elected secretary of the American College of Allergists.

Dr. Norman Hutchinson, Dr. Phillip Leeson, Dr. Lynn Kleopfer and **Dr. Debra Miller** have recently joined the Ottumwa Clinic. Dr. Hutchinson received the M.D. degree at the University of Michigan School of Medicine; interned at William Beaumont Hospital in Michigan; and completed his ophthalmology residency at Henry Ford Hospital in Detroit. Dr. Leeson received the M.D. degree and com-

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pleted his internal medicine residency at the U. of I.; Dr. Kleopfer received the M.D. degree at the U. of I. and completed his pathology residency at the University of Missouri in Columbia; and Dr. Miller received the M.D. degree and completed her pediatric residency at the U. of I. . . . **Dr. Steven Harlan** recently began the private practice of dermatology in Des Moines. Dr. Harlan received the M.D. degree at the U. of I. and completed his dermatology residency at the Mayo Clinic in Rochester, Minnesota. . . . **Dr. Daniel J. Vos** recently joined **Dr. Dean M. Harms** in Boone. Dr. Vos received the M.D. degree at the U. of I.; interned at Marshfield Clinic in Marshfield, Wisconsin and completed his residency in ophthalmology at the Medical College of Wisconsin in Milwaukee, Wisconsin. . . . **Dr. Richard Walton** recently joined the staff at the Gilfillan Clinic in Bloomfield. Dr. Walton received the M.D. degree at the University of Maryland and completed his internship and surgery residency while on active duty with the U. S. Navy. Following his residency, Dr. Walton was assigned to the Polaris Fleet, serving most of his assignment as senior medical officer aboard the USS Proteus in Dunoon, Scotland. While in Great Britain, he lectured at both Oxford and Cambridge Universities concerning nuclear deterrent.

Dr. John F. Pallanch and **Dr. William H. Wilder** recently joined the staff at Surgical Consultants, P.C. in Sioux City. Dr. Pallanch received the M.D. degree at Mayo Medical School in Rochester. He completed a general surgery internship at the University of Minnesota Hospitals and his otorhinolaryngology residency at the Mayo Clinic. Dr. Wilder received the M.D. degree at the University of Washington and interned at Philadelphia Naval Hospital. Following three years in the Navy, he took a pediatric residency at Mayo and practiced pediatrics for four years. . . . **Dr. Daniel L. Jorgensen** recently began the private practice of otolaryngology, head and neck surgery in Storm Lake. A native of Storm Lake, Dr. Jorgensen completed his residency at the U. of I. College of Medicine. . . . **Dr. W. W. Taylor,** longtime Sheffield physician, recently was

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named "Sheffield Sourdough Days Outstanding Citizen." Dr. Taylor received the M.D. degree at the U. of I. He began his medical practice in Sheffield in 1946.

Dr. Steven S. Kruse, Huxley, recently was honored at a community recognition dinner given by local citizens and those of surrounding communities for his 25 years of providing medical care to the people in those areas. A plaque noting the honor was presented to Dr. Kruse by the Huxley Business Community. . . . **Dr. Robert Clark** recently joined the Bluff Medical Center in Clinton. Dr. Clark received the M.D. degree from the University of Kansas School of Medicine and completed his surgery residency at Wesley Medical Center in Wichita, Kansas. . . . **Dr. Paul G. Schoon** has joined **Drs. William L. Telfer, Lawrence T. Betts,** and **Douglas L. Stanford** in Waterloo. Dr. Schoon received the M.D. degree at the U. of I. and completed his residency in obstetrics and gynecology at Indiana University Hospital in Indianapolis. Prior to locating in Waterloo, Dr. Schoon was in private practice in Moline, Illinois.

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Who made this poignant opening comment? It came from a man with over 30 years' experience on Iowa's highways. Colonel Frank Metzger is chief of the Iowa State Patrol. He said many of the 420 Iowa troopers have had this painful experience.

Iowa legislation to require the use of child restraints came close to passage in 1983 — with extremely broad-based public support. A renewed effort is planned with the 1984 General Assembly.

For its part, the Iowa Medical Society backs a new state law to make it a requirement that infants and small children riding in cars and pickups be secured in restraint systems, seat belts or safety harnesses.

Why do we support such a measure?

The facts speak for themselves. More deaths occur among children from motor vehicle accidents than any other cause. The National Safety Council says 1,500 children under five die and 60,000 more are injured in motor vehicle accidents each year. The car accident death rate among youngsters under 13 is highest in the first year of life — and especially the first six months.

Why are children less apt to survive? They have delicate bodies and bone structures. They have a higher center of gravity than adults. They do not have long legs to serve as anchors and their heads are proportionately heavier than adults. These factors liken the child to an unguided missile in a collision, sudden stop or rapid swerve. It has been calculated that even in a low-speed 30-mile per hour crash a 10-pound infant hits the windshield with the force of a 300-pound projectile; that's the equivalent of dropping a child from a third story window.

In a move to assure the availability of child safety seats for those who cannot afford them, the Iowa Medical Society, Iowa Automobile Dealers Association and the Iowa Department of Transportation have combined energies and resources to establish a loaner program for parents. Other such loan programs exist around the state.

Studies have shown a remarkably low percentage (less than 15%) of small children properly restrained when riding in motor vehicles. We recognize a new Iowa law, particularly one that's without punitive implications, will not singularly drive up the usage level. It will, though, put a clear and strong emphasis on the subject and will mandate public scrutiny.

Our very young citizens do not decide for themselves when and how they will ride in a motor vehicle. They don't have the choice. Just as we require youngsters to be properly immunized and protected with pasteurized milk, so, too, we need to establish a state policy which says these little guys and gals should be properly restrained when they ride in motor vehicles.

Let your legislator know you support this idea!

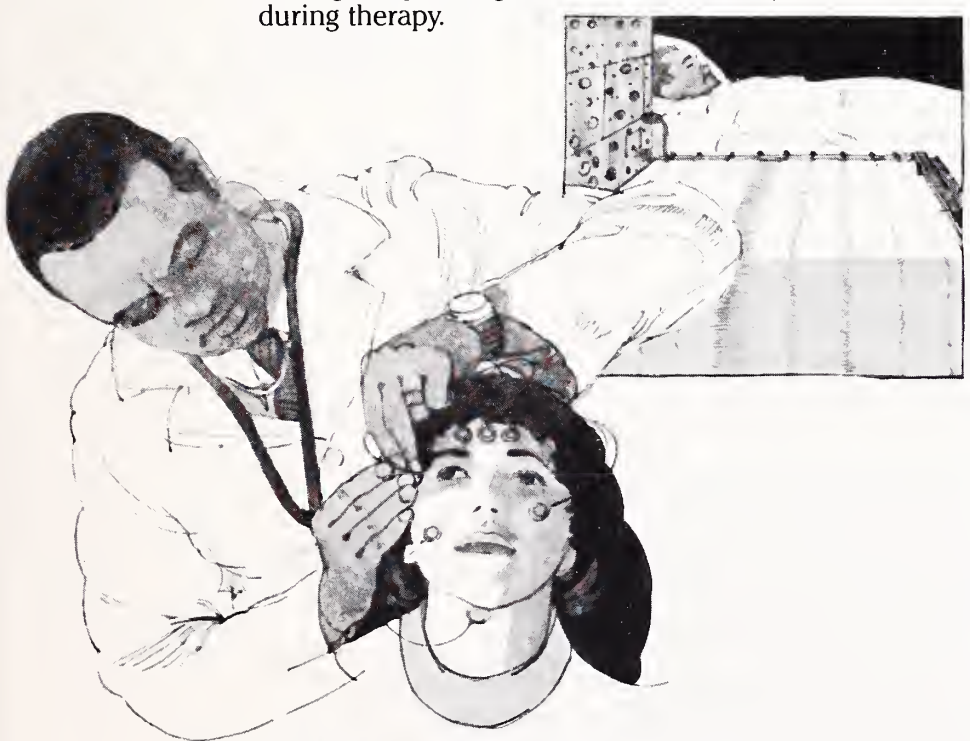
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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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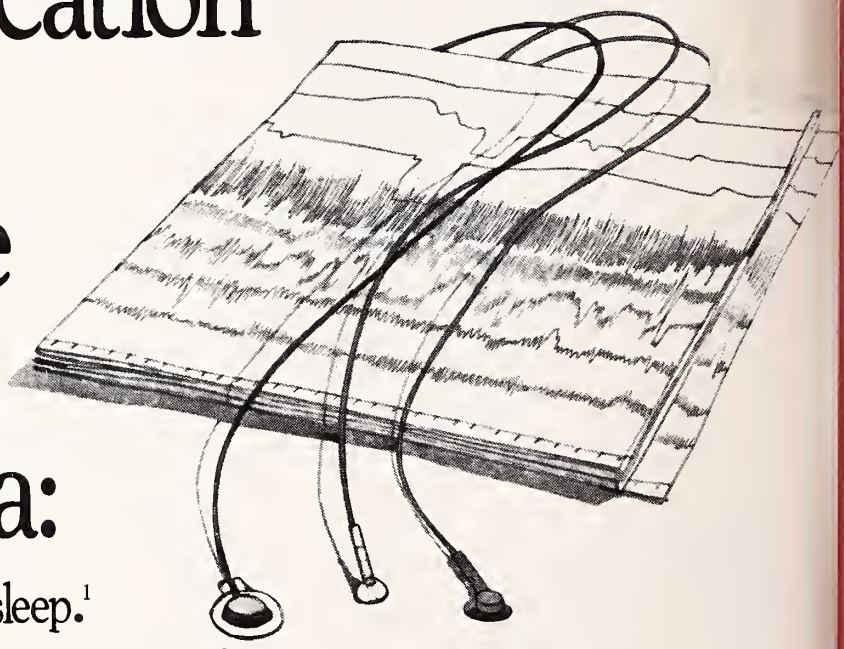
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ABOUT THE COVER — Physician-photographer Paul H. Potter, M.D., Des Moines, deserves credit for the cover pictures taken in China in October during a People-to-People visit by 20 Iowa physicians. The upper photo is a miniscule portion of the ancient and massive Great Wall. Below is Clarence Bain, M.D., Corning, senior physician on the tour, with a young Chinese friend. Impressions of medicine in China appear on Page 490.

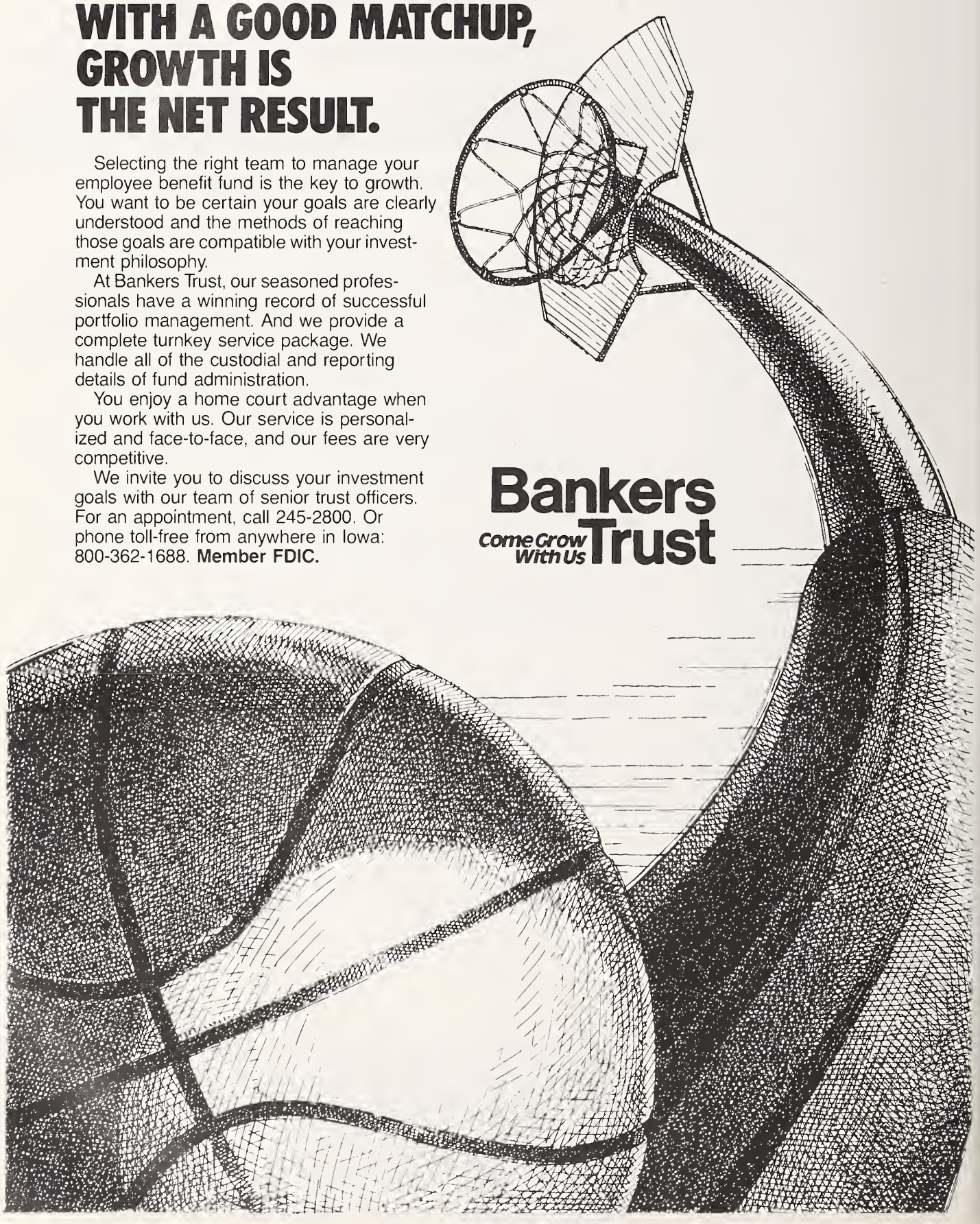
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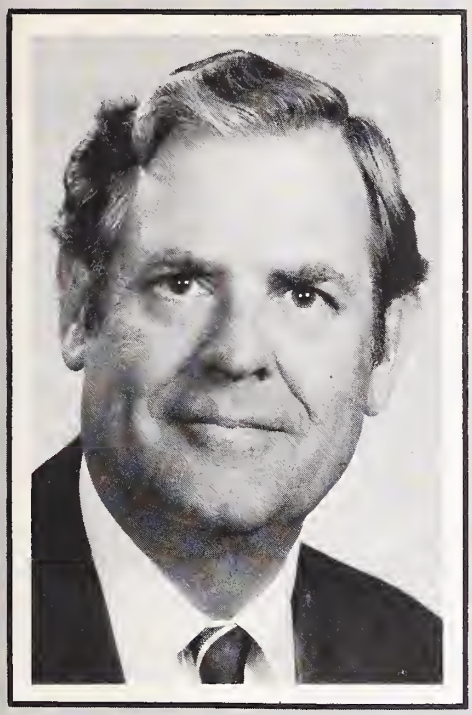
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PRESIDENT'S PRIVILEGE

WE'VE GOT to *take a hard look* at where we're going. This phrase is popular in our conversation today. Unfortunately, though, this *hard look* we talk about is frequently never taken.

Let me be quite candid this month. We all need to take *this hard look*. You! Me! All Iowa physicians! Few will argue that the delivery of medical care, that which we do, is changing at a pace none of us could have imagined just a few years ago. We are witnessing unprecedented activity aimed mostly at economic pressures. All of this is of momentous importance to you, to me — and to all of our patients.

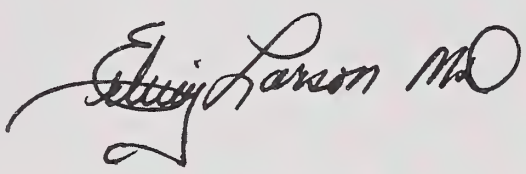
Your Iowa Medical Society leaders are committed to leading. We who serve you on the Executive Council and Board of Trustees put forth our best effort to serve the interests of your patients and you personally. We know there are differing viewpoints as to what is best. However, it is our obligation to evaluate the circumstances surrounding each issue — view them against today's political and economic realities — and use our best judgment in making the required decisions.

Straightforward as that may seem, the worth of our decisions is directly proportionate to the understanding and acceptance of the constituency. If 4 of 10 physicians don't even know what DRG stands for, or perceive little or nothing (either in the short- or long-range) of this new Medicare reimbursement system, we are in serious trouble. This alarming statistic was reported by Dr. Jim Sammons, our AMA EVP, at the North Central Medical Conference last month. It comes from a recent AMA survey.

I share Dr. Sammons' lament over this unbelievable level of physician unawareness. It is of little solace to hope those physicians reporting no DRG recognition practice outside Iowa.

The point is this: Your IMS leaders have to *take a hard look* at their knowledge level. I think they are. You likewise need to *take a hard look* at what you're doing to get (and stay) informed. Be of good courage and high motivation in 1984.

Holiday Greetings to You and Your Family!



Erling Larson, M.D.
President

Medical Care in China Today

JOHN H. KELLEY, M.D.
Des Moines, Iowa

Observations from an unforgettable People-to-People expedition to the People's Republic of China are recounted. A vivid mixture of the old and the new was seen by the Iowa physician visitors. Our Chinese medical counterparts conveyed a hopeful outlook about the future of health care in their country.

TWENTY CURIOUS Iowa physicians and their spouses ventured north of Hong Kong October 3 into the People's Republic of China. For these citizens of America's heartland it was the beginning of a most interesting and unforgettable People-to-People experience.

Our time with these Chinese medical counterparts was eye-opening and mind-stretching. It gave us a new appreciation both of our own medical prowess and for the capacity of others to deal with illness. The objective was that of improving relations between physicians serving two major countries of the world. Similar People-to-People trips are being taken by groups from other professions and occupations across the United States.

This brief contact with our Chinese medical colleagues was gratifying. We visited hospital and medical facilities in Canton (Guanqzhou), Guilin, Shanghai, Nanjing, and Peking (Beijing). We met physicians in each hospital. Without exception, they were open and gracious; they showed us their facilities and allowed us to examine and question their patients. They described their clinical results with openness and candor.

Brief as it may have been, the excursion enabled our Iowa delegation to make at least casual comparisons. Our conclusions emanate from visits to a number of hospitals and clinics and conversations with a good cross-section of physicians and patients.

The author is a past-president of the Iowa Medical Society and is in the private practice of orthopedic surgery in Des Moines, Iowa. This summary presents highlights of a People-to-People Trip to China taken in October by 20 Iowa physicians and their spouses.

PUBLIC HEALTH ADVANCES

The greatest medical progress in China over the past 20 years appears to have been in the area of public health. Conditions which earlier produced devastating epidemics now seem to have been eliminated. In 1949, life expectancy in China was 32 years, it is currently 68 years.[1]

Flies and mosquitoes are rare, even in the semi-tropical southern areas of China. Inoculation programs are well organized in both urban and rural areas of China. Family planning clinics are plentiful in today's China.

These photographs were taken by Paul H. Potter, M.D., who practices pathology in Des Moines.

Population growth has been slowed to less than 2%; penalties are levied against urban couples if they have more than one child; rural couples are penalized if they have more than two children. Free medical care and schooling are denied to parents who exceed the recommended number of children.

Much of the credit for the advancement in simple public health measures, at least in rural China, belongs to the famed "barefoot" doctors. These paramedics have brought health care to the remote areas. They were one of the

few good things to come out of the Cultural Revolution (1967-1977).

Since the Cultural Revolution the importance of the "barefoot" doctor has been downplayed. Admittedly, many of these individuals do not meet modern day medical standards. Now that there are more physicians available, it is expected they will play even less of a role in Chinese health care.

The number of "barefoot" doctors has declined from 1.8 million in 1976 to 1.4 million. One of our Iowa group talked with a former "barefoot" doctor who claimed to have performed over 200 appendectomies. With better-trained and more competent physicians becoming available, this particular individual has become a banker and now works in the trust department of a government bank.

Two types of medical schools exist in China. The "traditional" medical school teaches herbal medicine, acupuncture, moxibustion and other ancient methods of treatment. There are 22 such schools in China today. More significantly, there are 109 western medical schools. They are patterned after American schools; in fact, some of these schools were founded by American missionaries.[2]

(Please turn to page 492)



TRADITIONAL MEDICINE — Acupuncture, as shown here, is one dimension of traditional medicine. This picture was taken in Guanqzhou. There are 22 medical schools in China which teach "traditional" medicine.

MEDICAL CARE IN CHINA TODAY

Our visit confirmed impressions about the high regard in which the traditional medical practitioners are held. We toured large hospitals where significant numbers of patients were treated with traditional medical care. One hospital had a number of physicians from western nations taking special training in traditional medicine. We talked with a neurosurgeon and an internist from Spain who were in China for a few months of post-graduate study in traditional medicine.

Our guide told us traditional medical methods were sometimes used to treat serious illnesses. He said traditional procedures have brought as much as a 50% remission rate in acute leukemia. If modern chemotherapy is added to this treatment, the remission rate is approximately 68%.

In Shanghai we visited the Peng Pu Workers Residential Area. This area of the city has 39,000 people. There are 30 doctors assigned there. They operate a small dispensary as well as all of the clinics in that part of the city. No significant elective surgery is done in these settings. There seemed to be no overcrowded waiting rooms. In fact, everywhere we went, the pace seemed leisurely, no one seemed hurried. Most of the doctors at these local medical facilities are women, in the larger hospitals men dominated. We were told 50% of the physicians are female.

A 600-bed hospital in Guilin was staffed by approximately 200 doctors. Physicians admitted on the average 5,000 patients per year; surgeons performed about 2,000 operations annually. By contrast, Iowa Methodist Medical Center in Des Moines has 710 beds; it has 23,000 admissions a year and is the site of 14,000 surgical procedures. Surgical herniorrhaphy patients in Guilin might expect a 14-day hospital stay; in Iowa, the length of stay would be closer to 4 days. Patients in China are often expected to return to work immediately



OLD TREATMENT FORM — Shown here is the therapeutic application of moxibustion to a patient in Nanjing hospital. This is one procedure used in 'traditional' medicine.

following hospital discharge. This is because no one is home to care for the sick person.

BRING OWN FOOD

The Canton hospital requires the family of the patient to provide food for the patient. When this is not possible an additional small fee is made for the food.

Fracture care in China is very conservative. Complicated fractures are treated in traction. This necessitates a long period of hospitalization. Intertrochanteric fractures of the hip are sometimes treated by traction in the home.

The preceding comments suggest that hospital medical care in China is expensive in relation to the capacity of the economy. Cost containment is a matter of serious concern. Henderson and Cohen have discussed this economic issue in the AMERICAN JOURNAL OF PUBLIC HEALTH. As hospital costs rise, there will be a need for more utilization control. As authors have reported, we learned that medical care in China is not entirely free. Rural peasants often are under-insured and the cost of hospital care can be very expensive for them.[3] Small charges are made of some patients to control utilization.

We visited the Chi Shui Tan Hospital in Peking. This is the home of the Beijing Institute of Traumatology and Orthopaedics. Most of the chiefs of service spoke excellent English. A number of them had visited the United States in recent years. We examined many patients having undergone limb replantation procedures as well as complex free vascular myocutaneous transfers. The physicians had excellent records showing pre- and post-operative photographs, as well as graphic drawings of the surgical techniques employed.

Our host, Dr. Feng, recently visited the University of Iowa Department of Orthopaedics (Drs. Bonfiglio and Cooper). He was anxious to hear news of his American friends. A traditional doctor practicing in this prestigious institute described the use of bamboo splints in the treatment of certain upper extremity fractures. The techniques are somewhat similar to those reported by Dr. Sarmiento in this country. The Chinese have been practicing these techniques with bamboo splints for many centuries.

Three large hyperbaric chambers were shown to us in Nanjing. A variety of patients were undergoing treatment. Ten to 15 patients were in each chamber. Diseases reported to be responding to this treatment were limb ischemia, Alzheimer's disease, stroke, sudden deafness, and certain ophthalmic conditions.



PATHOLOGY — Des Moines pathologist Joseph Song, M.D., studies a microscopic slide while a Chinese pathologist looks on. This picture was taken at a hospital in Beijing.

Specialty training and accreditation of specialties is in its infancy in China. Chinese physicians who specialize are trying hard to formalize their specialty training. The Cultural Revolution set the progress of scientific medicine back 10 years, and Chinese physicians are struggling to retrain or retire incompetent physicians and surgeons.

Hospital wards in China have the appearance of a county hospital of 20 years ago in this country. The essential ingredients of good medicine were present. The physicians are optimistic that conditions will improve rapidly. Given a growing economy and a stable government, China should continue to upgrade the competence of its physicians. This, in turn, should increase the quality of medical care in a land with one billion inhabitants.

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QUESTIONS - ANSWERS

EMMETT B. MATHIASEN, M.D.
Council Bluffs, Iowa

OVER $1 MILLION

A significant point is being achieved this year in the life of the Iowa Medical Foundation. Comments about this achievement and other activity of the Foundation are noted here by its president.

For those unfamiliar, what is the Iowa Medical Foundation?

The Iowa Medical Foundation began in the early 1950's. It was then called the Iowa State Medical Society Student Loan Fund. It has served over 30 years as a scientific, educational and charitable instrument of the Iowa medical profession. We need to emphasize that the IMF is not the Iowa Foundation for Medical Care; the name similarity causes some confusion.

In what kinds of activity does the Iowa Medical Foundation engage?

Various worthy programs and projects have received both one-time and ongoing support. Recently, funds were allocated to prepare and print an informational folder to encourage parents to place their children in appropriate restraint systems when riding in motor vehicles. The folder will be distributed with the December IMS UPDATE. Regular support has been given to the Hawkeye Science Fair, a youth education project now 25 years old. A series of six health education folders has been printed under IMF auspices; they are available to interested physicians to give to patients.

Isn't making medical student loans a principal and long-term program of the Foundation?

Yes. Most definitely. The Foundation was formed for this purpose. The loan program was started by the late Dr. George Scanlon, an Iowa City surgeon. It is known today as the Scanlon Student Loan Fund. We allocate a major portion of our resources to this program.

Aren't you achieving a milestone with the loan program this academic year?

Yes. We are proud to report this academic year the Foundation will surpass $1 million in loans to Iowans attending medical school. Loan commitments for the 1983-84 academic year have been made to 45 students totalling $125,540.

Where does new financial support for the Foundation come from?

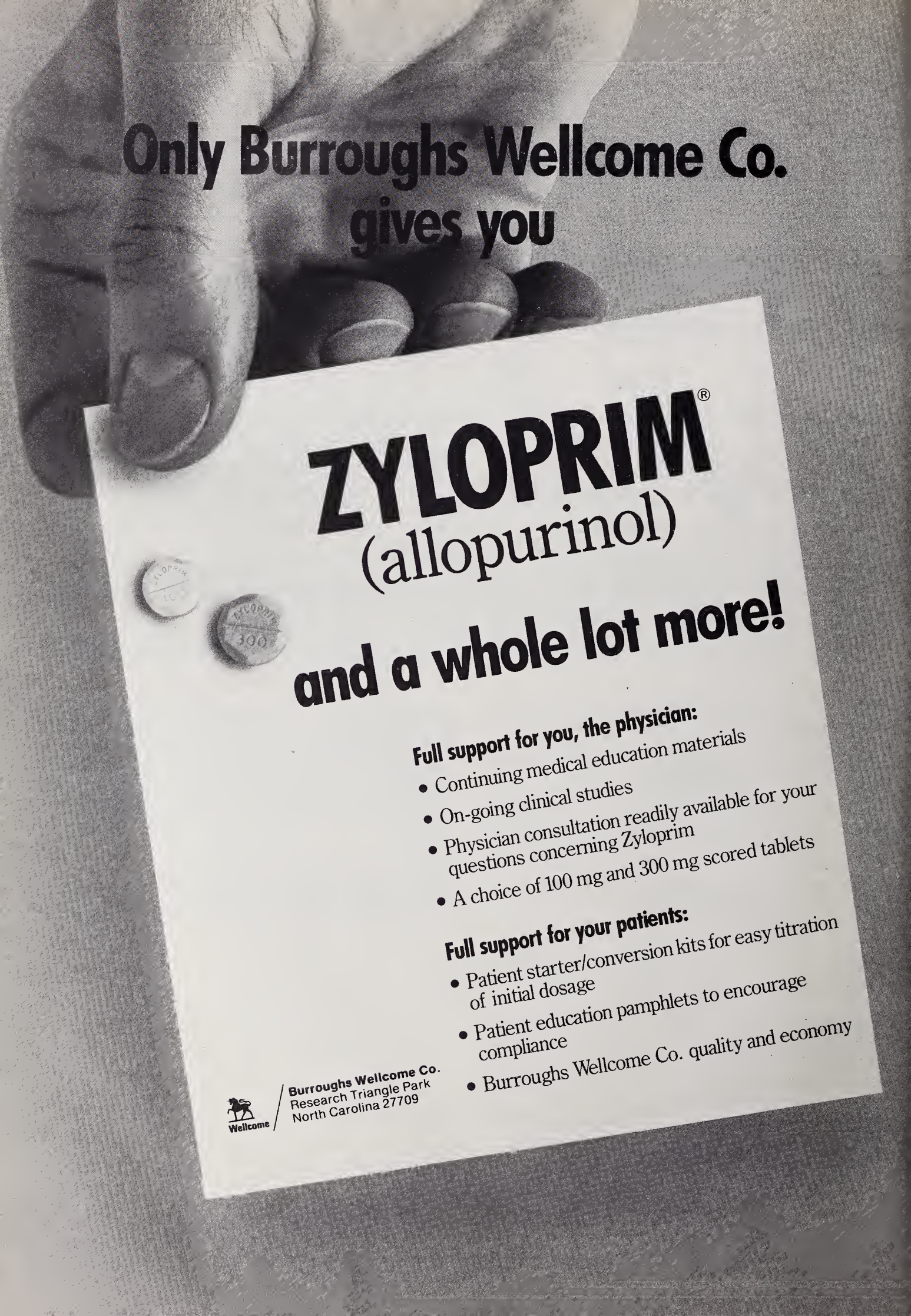
Various sources. We are grateful to the continuing generosity of Mrs. George Scanlon and her family; a $4,000 gift has just been received from Mrs. Scanlon. Our major ongoing source of income is from Iowa physicians (around 700) who each year make a voluntary contribution of $35 as noted on the IMS dues statement. This produces between $20,000 and $25,000 for the Foundation annually. We appreciate this support.

How is the Foundation governed?

The Foundation has a board of directors. It includes the three IMS trustees, two IMS past-presidents, a representative of the U. of I. College of Medicine, a physician-at-large, a representative of the Auxiliary, a designee from the IMS Assistance Program for Troubled Physicians and three lay persons. An informational report is made each year to the IMS House of Delegates.

Any concluding remarks?

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THINGS YOU SHOULD KNOW

HOLIDAY GREETINGS

As the end of a year is upon us, the officers and staff of the Iowa Medical Society join in expressing holiday greetings to all member physicians, their families and their employees. We extend best wishes for the coming year.

MEDICAID ADMISSION PROCEDURES

Significant activity by IMS representatives was consummated November 16 when the Iowa Council on Human Services approved a rule authorizing use of a focused review of Medicaid hospital admissions. This ruling replaced an earlier requirement for 100% preadmission certification of Medicaid patients. While some hospitals and their medical staffs may prefer the 100% approach, the IMS, along with the Iowa Hospital Association, the Iowa Society of Osteopathic Physicians and Surgeons and the Iowa Foundation for Medical Care, has secured latitude in this area, believing quality and cost-curtailment can be achieved just as adequately through the use of focused review. Guidelines for focused review to be used by the local hospital utilization review committee or by the Foundation have been developed by the IFMC.

IMS/AETNA CONCERNS

The IMS Medico-Legal Committee received the 1983 annual report of the IMS/Aetna Liability Insurance Program November 16. A premium increase averaging 32% is requested by Aetna in this report for the 1984 policy year (beginning 2/1/84). Aetna officials believe this increase is needed to cover malpractice occurring in 1984 -- regardless of when in the future the claims emerge. The Committee has asked Aetna to justify in greater detail this fourth consecutive and largest rate increase. An investigation is being undertaken of other coverage alternatives by the M-L Committee.

IMS HEALTH COVERAGE

1984 rates for the IMS Statewide Physicians Health Program will increase between 6.6% and 14%, depending on the option in effect. This coverage is furnished by Blue Cross/Blue Shield and is administered by The Prouty Company. An open enrollment period will occur in January and February. A folder containing the 1984 rates is being sent with the December IMS Update.

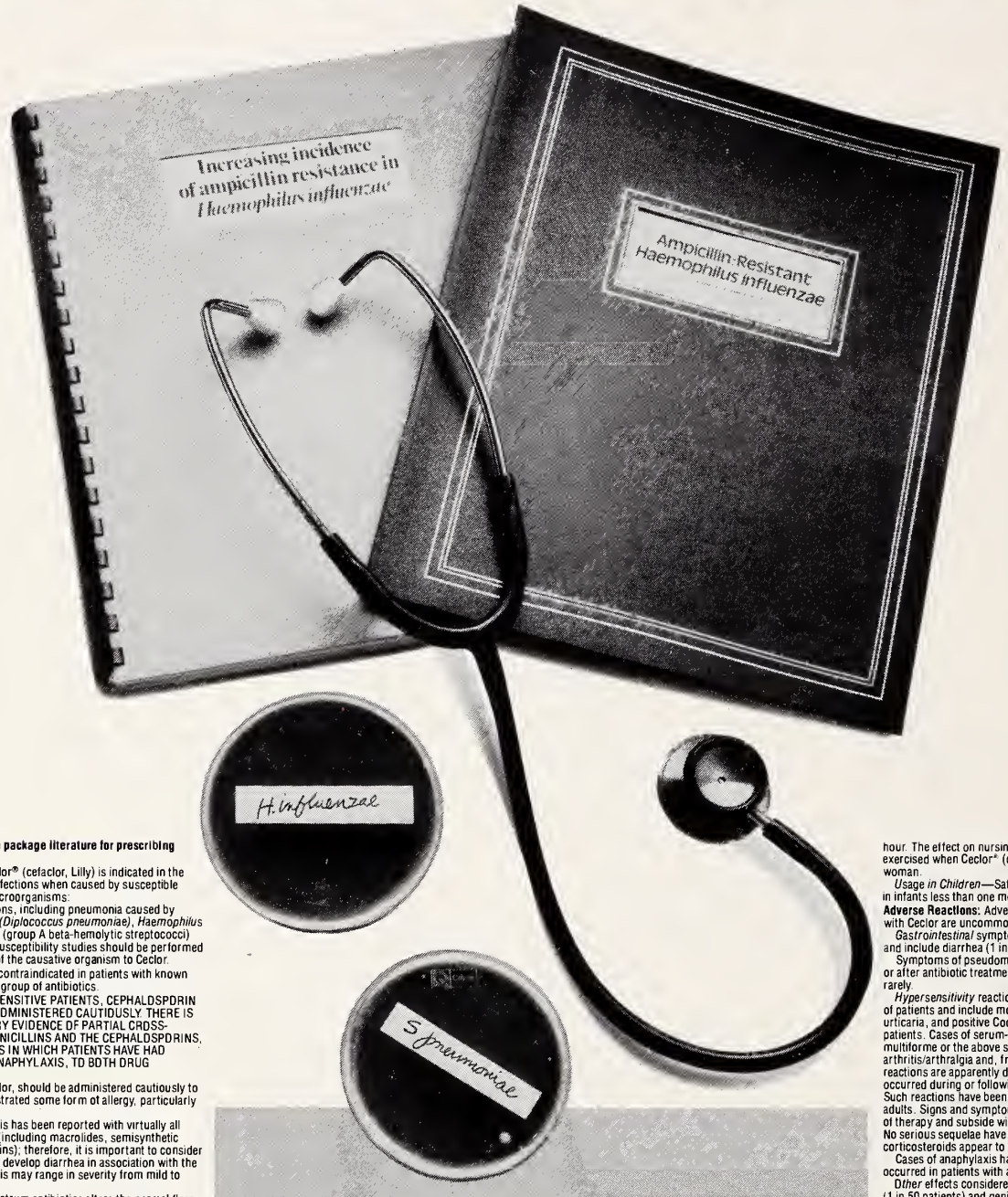
ER DRUG ADMINISTRATION

The IMS Committee on Alcoholism and Drug Abuse reminds Iowa physicians of the DEA position on the administration of drugs in emergency rooms: "The stock of drugs maintained in hospital ERs or outpatient facilities is kept for use by or at the direction of physicians... to receive such medication, a patient must be examined by a physician in the ER or outpatient facility and the need for the controlled substances determined. It is not possible under federal requirements for a physician to see a patient outside of the ER setting, or talk to him or her on the telephone, and then proceed to call the ER and order the administration of a stocked controlled substance upon the patient's arrival at the emergency facility."

HISTORICAL ACTIVITY

Representatives of 18 state medical specialty groups met November 9 with the IMS Historical Committee and were encouraged to undertake "oral history" interviews. The IMS Committee has a collection of over 45 such physician interviews. Reaction from the specialty reps was favorable with further consultation offered by the IMS body.

An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALDSPDRIN ANTIBIDTICS SHDULD BE ADMINISTERED CAUTIDUSLY. THERE IS CLINICAL AND LABDRATDRY EVIDENCE DF PARTIAL CRDSS-ALLERGENICITY DF THE PENICILLINS AND THE CEPHALDSPDRINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TD BDTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Dther causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Dther effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGDT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

{0617B2R}

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]
Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Bilateral Oophorectomy In Early Pregnancy

POLLY McCORMACK, M.D.
LEO A. MILLEMAN, M.D.
ALAN K. MUNSON, M.D.
Ames, Iowa

This interesting case report was compiled under a summer medical student grant furnished by the Iowa Medical Foundation and the McFarland Clinic. The case supports studies that progesterone is needed to maintain pregnancy in certain instances.

PROGESTERONE is one of the steroids known as progestins, so named because they promote gestation. The crucial role of progesterone in the maintenance of human pregnancy has been well established. The studies of LeMaire[1] have shown the predominant site of progesterone synthesis shifts from the corpus luteum to the placenta between the seventh and twelfth week of pregnancy. After this "luteoplacental shift," the ovaries are no longer essential to pregnancy. If the ovaries are removed during this interval, however, supplemental progesterone may be helpful.[2] These findings are supported by the following case report.

Dr. McCormack was a medical student at the University of Rochester when this paper was prepared. She is currently in postgraduate training at the Hennepin County General Hospital in Minneapolis, Minnesota. Dr. Milleman is associated with the Department of Urology and Dr. Munson with the Department of Obstetrics and Gynecology at the McFarland Clinic in Ames, Iowa. The paper was prepared under a summer medical student grant provided by the Iowa Medical Foundaiton and the McFarland Clinic.

CASE REPORT

A 30-year-old woman, gravida 3, para 2, was admitted in the tenth week of pregnancy with the complaint of colicky, diffuse abdominal pain of 24 hours duration. Her gynecological history was significant. At age 13, the patient had a right oophorectomy following torsion and infarction of the right ovary. She began taking oral contraceptives at age 19. Five years later, she was found to have a left ovarian cyst which was subsequently resected, leaving the remainder of the ovary intact. In the following 3 years, she conceived twice; healthy full term infants were delivered after these uncomplicated pregnancies.

Ten weeks prior to admission, the patient became pregnant a third time. Six weeks later during a routine prenatal examination, an adenexal mass was palpated; ultrasound suggested a left ovarian cyst. On admission, fetal movement was demonstrated by ultrasound, and head size was consistent with a 10 week gestation. The day after admission, the patient's abdominal pain became severe and constant. She was taken to surgery where torsion of a cystic left ovary was found and left salpingo-oophorectomy performed. The patient tolerated the procedure well.

Gross examination of the specimen revealed a bluish-purple left ovary with a 6 cm cyst.

THE IOWA MEDICAL FOUNDATION HAS DESIGNATED THIS ARTICLE AS THE HENRY ALBERT SCIENTIFIC PRESENTATION FOR THE MONTH OF DECEMBER 1983

Microscopic examination showed several 2 cm hemorrhagic corpus luteum cysts and focal hemorrhage of the left oviduct.

The patient was given progesterone vaginal suppositories (25 mg twice daily) beginning 4 hours prior to surgery and continuing through the twelfth week of gestation. The pregnancy progressed uneventfully. Two weeks after the expected due date, the patient was admitted. Normal labor began one hour following amniotomy, and a healthy female infant was delivered vaginally. The patient breast fed her child. Three days after delivery, the patient was started on replacement estrogen therapy.

DISCUSSION

Endocrine studies have shown 3 phases of progesterone production in early pregnancy.[2] Initially, the ovary synthesizes all the progesterone; this phase ends 5 to 6 weeks after conception. After a transition period of shared production by the ovary and placenta between the seventh and twelfth week, the placenta emerges as the major source of progesterone.

Evidence for this "luteoplacental shift" is provided by numerous clinical case reports which suggest that primate and human ovaries may not be necessary after the first trimester of pregnancy. There has been dispute, however, on the exact time in gestation after which the ovaries are not needed. Berg *et al*[2] found that bilateral oophorectomy performed before the ninth week caused abortion in all cases, whereas when the operation was performed between the ninth and twelfth week, only 20% aborted.

If the ovaries are left in place, the corpus luteum alone may be removed prior to the ninth week without subsequent abortion. Berg *et al* reported that luteectomy at the end of 6 weeks did not interrupt pregnancy. In the study of Csapo *et al*[3] 4 of 11 patients luteectomized at the end of 7 weeks experienced a transient decrease in plasma progesterone levels, but no abortion. The remaining 7 patients demonstrated a continued drop in progesterone and all of them aborted. These results prompted Csapo to study a second group of patients who were also luteectomized at the end of 7 weeks; progesterone was given (200 mg/day) and the pregnancies continued. Similarly, Berg *et al* treated a woman luteectomized in the seventh week with progesterone (100 mg/day) through the twelfth week with no subsequent abortion.

These studies confirm that progesterone is needed to maintain pregnancy. The corpus luteum has been considered to be the sole source of ovarian progesterone. If, however, the corpus luteum can be removed earlier in the luteoplacental shift than can the entire ovary, this suggests the presence of sources of ovarian progesterone other than the corpus luteum.

The clinical course of the patient we report resembles those of Berg and Csapo. After oophorectomy in the tenth week, we treated our patient with progesterone vaginal supplements (50 mg/day) through the twelfth week, the end of the luteoplacental shift. Progesterone supplements are used frequently to treat luteal insufficiency; as bilateral oophorectomy represents absolute luteal insufficiency, we recommend the use of supplemental progesterone for all patients who are oophorectomized before the twelfth week of pregnancy.

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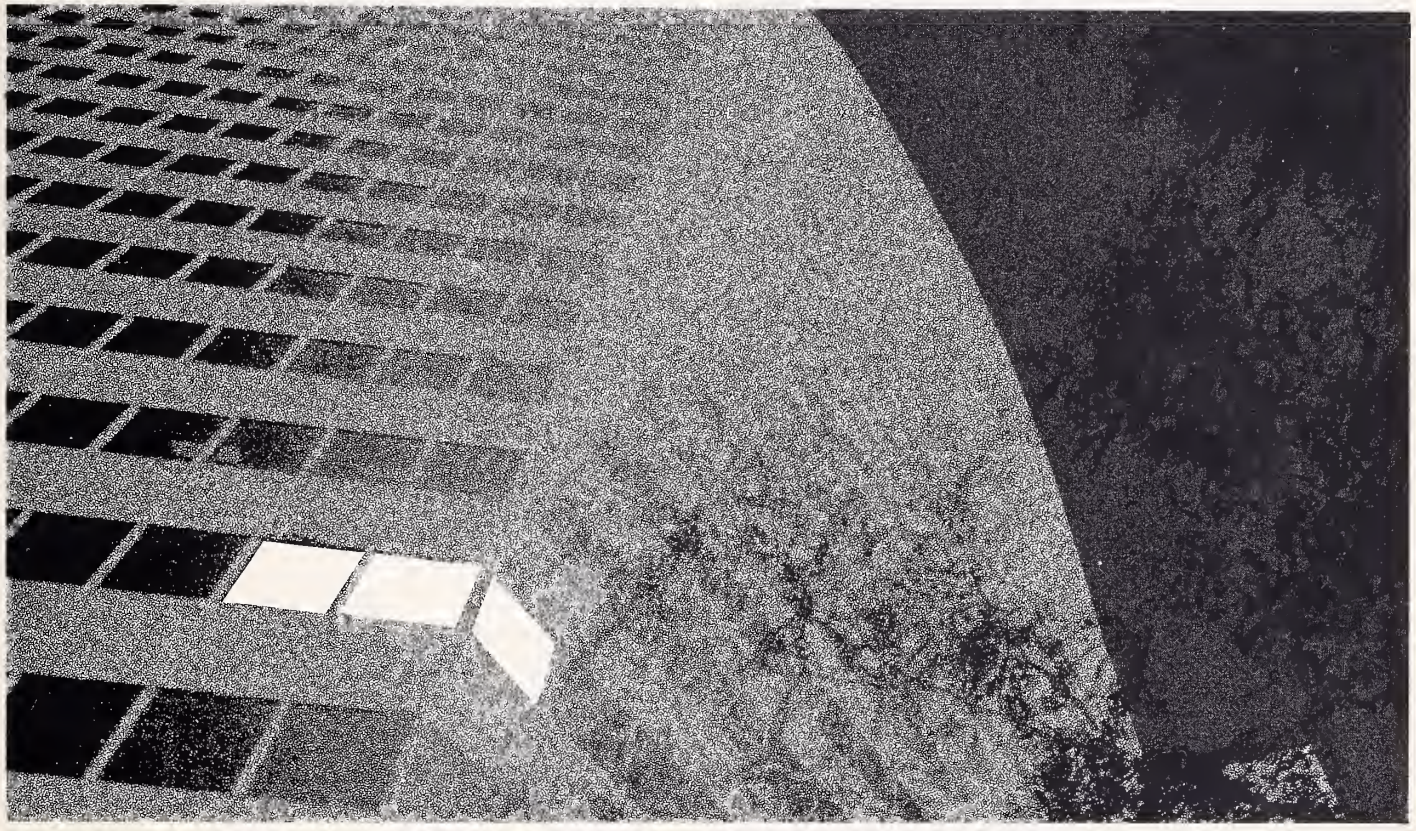
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Macular Degeneration Associated With Aging

THOMAS A. WEINGEIST, M.D., PH.D.
Iowa City, Iowa

Appropriate treatment and counseling can be of significant benefit to the elderly as regards vision loss. Here the author describes senile macular degeneration and urges fellow physicians to be mindful of it as they care for elderly patients.

SENILE MACULAR DEGENERATION (SMD) is one of the most common forms of blindness in the United States. It occurs at a time in life when individuals experience many other socioeconomic and medical problems that threaten their independence. The fear of blindness accentuates many of the problems encountered by the elderly. Medical doctors are in a position to allay unwarranted fears in these individuals by determining the cause of decreased vision and by providing appropriate counseling and treatment.

The National Eye Institute recently released findings from a multicenter, controlled, clinical trial that indicate laser photocoagulation of one form of senile macular degeneration is useful in preventing severe visual loss.[1] This paper will review the signs and symptoms of senile macular degeneration and will describe the current management of patients with SMD in view of the recent findings of the Macular Photocoagulation Study.

The author is a professor in the Department of Ophthalmology at The University of Iowa College of Medicine. This paper is adapted from a presentation made at the Midwest Conference on Health Care in the Elderly in May 1982.

Although the incidence of SMD reaches a peak during the sixth decade, it is by no means associated with "senility." It usually occurs between 50 and 70 years of age, but has been observed in a few individuals less than 50 years of age. Other factors besides aging, such as heredity and environment, must also play a role, since SMD is rare in countries such as Japan and is seldom seen in black Americans. For these reasons I prefer to call this entity "macular degeneration associated with aging," rather than "senile macular degeneration." However, because the term "senile macular degeneration" is so entrenched in the literature, this term will be used in this report instead of the less familiar "macular degeneration associated with aging."

SCOPE OF THE PROBLEM

Each year an estimated 94,000 Americans become legally blind (visual acuity less than 20/200) from all causes. SMD accounts for approximately 16,000 (17%) of these new cases of blindness. Overall, a total of 116,000 individuals or 12% of all cases of blindness in the United States have resulted from SMD. In addition, many elderly individuals experience less severe visual loss which interferes with their daily life. SMD is therefore a major social and public health problem with far reaching socioeconomic consequences.

CLASSIFICATION OF SMD

Two major types of senile macular degeneration exist: *atrophic SMD* and *neovascular SMD*. The relative prevelance of these entities has not been determined. It is estimated that 90% of those blinded by SMD have the neovascular form of the disease and presumably have

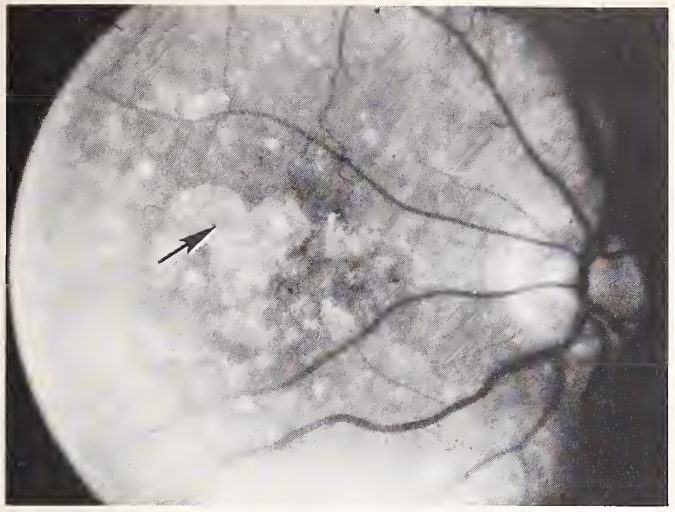


Figure 1. Atrophic SMD — fundus photograph of right eye. Note the multiple subretinal deposits (drusen) and the atrophic appearance of the retinal pigment epithelium (arrow).

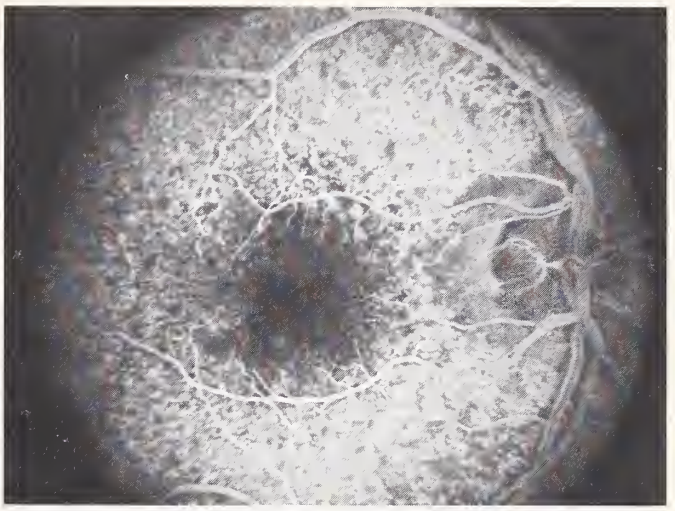


Figure 2. Atrophic SMD — Fundus fluorescein angiogram reveals many more drusen than were visible through the ophthalmoscope. It also demonstrates the normal retinal vascular pattern of the macula.

passed through a stage which was responsive to laser photocoagulation. Other forms of senile macular degeneration exist, but are of less importance and are unresponsive to laser photocoagulation.

ATROPHIC SMD

Atrophic SMD is characterized by the presence of drusen and degeneration of the retinal pigment epithelium and the overlying neurosensory retina. Drusen are considered to be excretory products of the retinal pigment epithelium. They are located in the inner portion of Bruch's membrane between the retinal pigment epithelium and the choriocapillaris. It is the choriocapillaris that nourishes the outer retina. Formation of drusen probably results from accumulation of "waste products" secreted by the retinal pigment epithelium.

Viewed through the ophthalmoscope the macula appears "dry" and atrophic (Figure 1). The drusen vary in size, color and distribution. They are usually pale yellow or off-white. Some appear refractile and probably contain calcium crystals. Over the course of years they may increase, decrease, or become confluent. In fundus fluorescein angiograms they are usually strikingly more abundant than can be appreciated by ophthalmoscopy (Figure 2). Typically they hyperfluoresce early, stain, and fade late in the fluorescein angiogram.

Familial drusen or colloid bodies may occur in young adults and cannot be differentiated from senile drusen. Probably all patients with macular drusen have a similar autosomal dominant degenerative disease. Some, but not all, eyes with atrophic SMD develop new vessels beneath the retinal pigment epithelium and then are classified as neovascular senile macular degeneration.

NEOVASCULAR SMD

Neovascular or disciform senile macular degeneration accounts for approximately 90% of legal blindness due to SMD. It is characterized by the development of a subretinal neovascular membrane, by serous exudation and by elevation of the retinal pigment epithelium and the retina. Hemorrhage beneath the retina and the development of a fibrovascular scar within the macula are the usual consequences of this condition. Similar subretinal neovascular membranes occur in another type of disciform macular disease thought to be caused by histoplasmosis, in eyes with angioid streaks and in other less common ocular and systemic conditions that affect younger individuals.

The subretinal neovascular membrane arises from the choriocapillaris, extends through defects in Bruch's membrane and forms a fibrovascular membrane beneath the retinal pigment epithelium. If the vascular membrane is destroyed by laser photocoagulation before it enters the foveal avascular zone or before hemorrhage extends into the fovea, vision can frequently be spared.

When viewed through an ophthalmoscope, the subretinal neovascular membrane has a dirty-gray or green appearance (Figure 3). Proof that the lesion is a neovascular mem-

(Please turn to page 504)

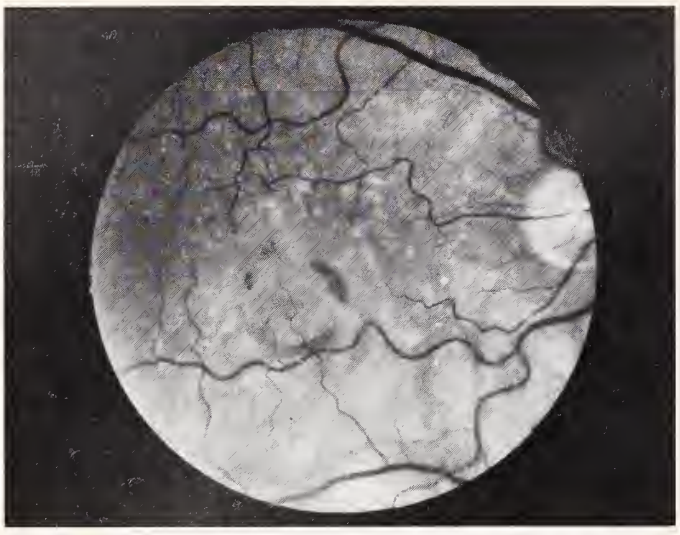


Figure 3. Neovascular SMD — fundus photograph.

brane can often be obtained by fundus fluorescein angiography, if the membrane is not obscured by overlying hemorrhage which so often accompanies it (Figure 4). Fluorescein angiography is an essential part of the management of these patients because it is the only accurate means of determining the relationship of the subretinal neovascular membrane to the center of the foveal avascular zone. The center of the foveal avascular zone corresponds to the center of the fovea and the area of most acute central vision. Membranes that lie directly beneath the center of the fovea are not amenable to argon laser photocoagulation treatment because the treatment will destroy the foveal cones.

SYMPTOMS

Individuals with SMD should be cautioned to be alert for blurred vision, distortion (metamorphopsia) and scotoma. Metamorphopsia is the hallmark of a subretinal neovascular membrane in the macula. It can be detected most easily if the patient views a pattern such as an Amsler grid (Figure 5). Distortion of the grid pattern can be outlined by the patient and reported to the physician.

Fear of blindness exists among many individuals, but it is especially worrisome to the elderly, because it means greater dependency. Elderly patients should be assured that senile macular degeneration does not result in total blindness. Peripheral vision usually is full and patients are ordinarily able to walk without the use of a cane. Geriatric patients should be encouraged to use their eyes to read and watch television as much as they desire. Continued use of the eyes does not lead to further deterioration. A hand-held magnifying lens may be of some assistance in reading. No diet, vitamin supplements, vasodilators or other medical treatment has been proven to be effective. In discussing SMD with patients, emphasize their loss of vision is due to alterations in the blood supply of the eye and that this is a consequence of aging. Instruct elderly patients with SMD on the use of the Amsler grid. Encourage them to seek prompt advice from an ophthalmologist if they become symptomatic, and be optimistic, but realistic about their visual prognosis.

MACULAR PHOTOCOAGULATION STUDY

The Macular Photocoagulation Study was a multicenter, randomized clinical trial that attempted to answer the question: "Is argon laser photocoagulation useful in preventing severe visual loss in eyes with SMD and a subretinal neovascular membrane outside the foveal avascular zone?" The study included patients from 12 medical centers throughout the United States. A total of 224 patients qualified for the study. One hundred and five patients were followed for 12 months and 41 patients were followed for 18 months. To be eligible for the SMD Study, patients had to be 50 years of age or older and had to fulfill the following criteria:

1. *Visual acuity of 20/100 or better*
2. *Subretinal neovascular membrane 200 to 2500 microns from the center of the foveal avascular zone*
3. *Drusen in the posterior pole of the fundus*



Figure 4. Neovascular senile macular degeneration — fundus fluorescein angiogram of the same eye as in Figure 3. Note the relationship of the neovascular membrane in the choroid to the center of the foveal avascular zone (arrow).

4. No other apparent reason for the presence of a subretinal neovascular membrane

Fundus fluorescein angiography was performed in order to confirm the existence of the subretinal neovascular membrane and to establish its relationship to the foveal avascular zone. Patients were then randomized into treatment and nontreatment groups. Patients selected for treatment were given a retrobulbar injection of a local anesthetic and were then treated with argon laser photocoagulation in an attempt to destroy the neovascular membrane beneath the retina.

MACULAR PHOTOCOAGULATION STUDY RESULTS

Seventy-three percent of untreated eyes with neovascular SMD experienced some loss of vision in one year. Severe visual loss occurred in 60%, and legal blindness (less than 20/200 vision) occurred in 42% of eyes in one year.

Among the treated eyes, there was some loss of vision in 43%, severe visual loss in 25%, and blindness in 14%.

The Macular Photocoagulation Study demonstrates that treatment significantly reduces the risk of severe visual loss for eyes with evidence of SMD and a symptomatic subretinal neovascular membrane at least 200 microns from the center of the foveal avascular zone. The results of the study cannot necessarily be extrapolated to asymptomatic eyes, to eyes with drusen but no neovascular membrane, or to eyes with geographic retinal pigment epithelial atrophy, serous or hemorrhagic detachment of the retinal pigment epithelium, or a neovascular membrane within 200 microns of the foveal avascular zone.

STUDY IMPLICATIONS

Elderly patients with drusen of the macula should be examined at regular intervals (4 to 6 months), especially if deterioration of vision has already occurred in one eye. Patients over the age of 50 should be cautioned to be alert to distortion, blurred vision and scotoma and should be urged to seek examination by an ophthalmologist within days of the onset of symptoms. This is very important, because patients with neovascular SMD remain treatable for a relatively short period. Two weeks following the onset of symptoms, approximately 17% of eyes are no longer treatable by argon laser photocoagulation. By the end of 4 weeks, 57% of eyes are untreatable.[2]

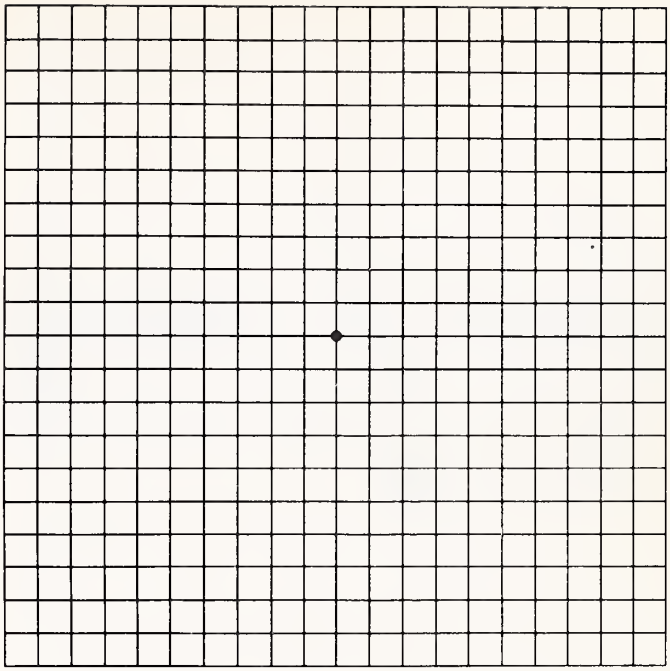


Figure 5. Use of the Amsler grid can help patients detect the distortion in central vision that occurs early in the development of neovascular senile macular degeneration.

Individuals with neovascular SMD and drusen in one eye should be cautioned that they are at increased risk of developing neovascular SMD in the remaining eye. On a yearly basis 12-15% will develop neovascular SMD in the second eye.[3] The proper use of an Amsler grid can help patients recognize the onset of neovascular SMD at its earliest stages.

Prompt evaluation of patients with neovascular SMD is essential in order to achieve maximum therapeutic success. Unfortunately only one in 20 patients screened for the Macular Photocoagulation Study met eligibility criteria. It is estimated that argon laser photocoagulation, if applied at the right time, will prevent 89% of cases of legal blindness caused each year by neovascular SMD. As a result, approximately 13,000 Americans each year could be permanently or temporarily saved from going blind. Earlier referral and the use of the red krypton laser which theoretically permits photocoagulation within the foveal avascular zone and through subretinal blood may improve these statistics in the future.

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Financial Planners: Buzz Word or Reality? (Part II)

DAVID BLACK, C.F.P.
Des Moines, Iowa

In the September, 1983 IMS Journal, Mr. Black described the intangible factors associated with "financial planning." He explained that services offered under this banner can differ significantly. In a second and concluding phase of this discussion, Mr. Black examines the tangible elements involved in the development and execution of a financial plan.

TANGIBLE FACTORS are much easier to evaluate in the consideration of a financial planner. But they do require specific questioning. If you are considering such an arrangement you must be willing to ask for information that is important and not depend on the prospective planner to comment on areas he may be uncomfortable in discussing.

Begin your investigation by asking about advanced degrees held by the planner individually and/or the credentials of the planner's firm. Three common and meaningful professional designations are the CFP (Certified Financial Planner), CFA (Certified Financial Analyst), and ChFC (Chartered Financial Consultant).

Mr. Black is a certified financial planner and is associated with The Prouty Company, the Iowa Medical Society insurance administrator.

The certified financial planner or CFP is one who has earned the title by demonstrating competence in analyzing and developing personal and business financial plans. He or she has successfully completed a six-part series of rigorous financial planning examinations offered by The College for Financial Planning in Denver, Colorado. However, you should not assume that every CFP is a *practicing* financial planner, as many earn the designation and continue to earn their living selling very specific product lines.

Any practicing financial planner must have an established means of securing support from individuals with law, accounting and business backgrounds. The licensure achievements of your prospective planner can also give a more accurate picture of his legal limits in terms of service potential. If your prospective planner is only licensed for life/health insurance, and not for general securities (NASD—Series 7) and direct participation programs (NASD-Series 22), you should not expect comprehensive analysis.

ACTS AS COORDINATOR

The old adage of "jack of all trades, master of none" is not entirely true for the financial planner. Keep in mind the financial planner frequently operates as a "coordinator." This means he has expertise in several areas, but also has available consultants with even more specialized backgrounds. However, you should give bonus points to the planner who is especially well versed in three areas: tax-

sheltering, retirement planning and real estate.

Membership and direct involvement in financial planning trade associations is a further indicator worth checking. The IAFP (International Association for Financial Planning) and ICFP (Institute of Certified Financial Planners) are the two most common. Since keeping abreast of changing situations is one of the most important duties for the planner, ask him how he handles continuing education requirements.

Lastly, it is often helpful for you to understand who your planner is most comfortable in working with. What is the average income of the planner's clientele? What percentage of his clients are physicians? Is he familiar with other programs and services that are tailored to your occupational group?

COMPENSATION ARRANGEMENTS

You can often save yourself a lot of time by simply asking the planner for a general breakdown by percentage of his income sources. There are usually only two categories: commissions and fees. If you are not paying a fee for the financial planning service that is offered, there are probably only two reasons why: you're going to get what you paid for or your prospective planner is not a RIA (Registered Investment Advisor) with the SEC. Fee structures should be discussed carefully and specifically. It is advantageous if you can inspect the planner's client contract and have an opportunity to ask questions before you make a decision to work with him. It is desirable to have your planner disclose commissions. The fee you pay may well have a direct relationship with the amount of "tailoring" provided. Some planners regard their role as one of a general advisor and avoid making specific recommendations. Other planners are obviously oriented toward specifics and have the desire to counsel clients as to the implementation of the plan.

STAYING CURRENT

A factor especially important in addition to the brain power of any planner is his ability and method for staying current in a quickly changing financial environment. You should inquire about his sources of information, i.e., what he subscribes to and what he takes time to read and study on your behalf. This issue is of grave importance to you, because his recommendations will result from the analytical information-gathering system he has constructed.

COMPUTERIZATION

The issue of computer backup (hardware and software technology) is also pertinent. Data collection, assimilation and integration are significant in the contemporary financial plan. It makes good sense for you to ask the planner where he obtains this backup and how much it costs? The cost and complexity of this support system or computer may be a revealing indicator of the "vested interest" behind the planner. A vested interest is a financial institution, i.e., insurance company, bank, etc. The capability and flexibility of a computer will have a great effect upon the ability of the planner to provide you services related to different tax scenarios and projections of partnership investments.

TRACKING PERFORMANCE

Inquire as to how periodic review of client net worth is accomplished. A minimum of four visits per year is reasonable if the reviews are to be comprehensive. For those professionals working with financial planners who derive commission income from product sales, it is advisable to probe the specific strategies that have been recommended to past clients. If your planner promises tax reduction, then you should request him to explain how past tax reduction has been achieved. Ask to see his portfolio menu of securities products and inquire which ones might be appropriate for you.

If your planner has recommended real estate partnerships, for example, ask him how many real estate properties he has personally inspected, what methods he uses to discern the best deals, and how many general partners he does business with on a regular basis. This line of questioning should be applicable to every major area of investment, including his opinion of how to participate in equity market growth, oil and gas, tangible investments, etc.

PRODUCT AVAILABILITY

With rare exceptions, securities law allows each registered representative to market only the products of *one* broker-dealer. This means that the consumer-client will be limited specifically to only the products sponsored by that

(Please turn to page 509)



COMMENTING EDITORIALLY

MARION E. ALBERTS, M.D.
SCIENTIFIC EDITOR

DOWN TO EARTH

RICH SOIL enables the roots of a plant to get a solid footing and thrive. When there is poor soil special nutrients must be added to stimulate growth. In the ecological cycle the roots must be nourished if plant life is to be sustained year after year.

What relationship does this have to our lives?

At this time of year, following Thanksgiving, and just before Christmas and the end of another year, it might be well to reflect on this theme.

We often speak of a person or an act as being "down to earth." That isn't enough! To be accurate we should say "down into the earth." Otherwise, the outcome is apt to be too shallow. A plant with a poorly embedded root system is not likely to thrive unless compensation occurs as a result of the roots extending themselves laterally from the main stem. Should this happen the plant will have limited stability and likely will be unable to resist the stresses of the environment. It will wither and die or survive in a misshapen form.

Our lives must be well rooted, deeply embedded in a nourishing environment. That environment may emerge from an upbringing which has been honorable in nature, one where positive character traits have been planted and fertilized.

Jonathan Swift noted that sometimes there is in man, as in soils, a vein of gold of which the owner knows not. In a man's nature there lies hidden rich mines of thought and purpose; they often await development. Each of us must search within ourselves for potential riches, and through this search, our lives may become more rewarding.

I speak not of material gain in this context, rather of the realization that within us lie wisdom and personal integrity. We have these attributes to varying degrees; we must strive to develop them to the fullest.

We have given Thanks for our riches on earth, as well as for the abundance we have collectively in these great United States. We are now in the midst of the Season of Joy. We remember our family and friends with greetings and gifts. The colorful lights, the musical anthems, and the gaiety of the time again remind us of love and goodwill.

The traditions of the Christmas Season reaffirm our faith in something greater than the rewards of daily living. So saying, we need to rededicate ourselves to the search for those veins of gold within us, to the end that we may succeed in providing quality health care to all who call upon us.

As we end another year, which has had its trials, along with its many joys, we face new and high expectations. Let us be not only "down to earth" in our relationships with each other; let us strive to get our roots deeper into the rich soil of peace and goodwill.

Reach for the good that is in you; nourish it to the benefit of all persons with whom you have contact. Make tomorrow as good as possible for every individual you serve. To each of you, our readers, we wish happy holidays and a good new year. — M.E.A.

Letter to the Editor

POST BY-PASS ATTITUDES

Dear Editor:

The advent of coronary artery by-pass surgery has initiated much controversy, both pro and con.

My letter is one to satisfy the validity of my observations and in no way participate in any controversy.

Virtually every patient of mine who has recovered from by-pass surgery reveals definite overt symptoms of some brain failure. You get this information from a wife or some close member of the family. The principal com-

plaints by people in close proximity to the patient state that he is not the same person as before as manifested by: (a) Increasing fault finding; (b) Argumentative; (c) Difficult to please; (d) Indulges in idle chatter or increasing muteness; (e) Evidence of cognitive loss.

As one woman put it, "What has happened to this loving, caring husband of 30 years — I don't know this man."

Is it possibly due to surgical hypoxia? Can you indulge me and inform me whether other people have reported on this complication? — *A. S. Owca, M.D., Centerville*

Editor's Note: These are interesting observations. The family practitioner has a unique opportunity to be close to the patient and his family. Are there other comments on this theory?

FINANCIAL PLANNERS: BUZZ WORD OR REALITY (PART II)

(Continued from page 507)

one broker-dealer. Therefore, it is imperative that the client realize as much as possible about the size of the product menu and, specifically, the variety of tax write-off choices that are available. Further, ask the planner how he is able to reserve allocations of the best products that seem to sell out very quickly. The number of private placement offerings will often tell you something about the depth of "due diligence" of the broker-dealer.

It is hoped these two discussions on the tangible and intangible factors involved in the consideration of a financial planner will be helpful. As the old saying goes, "It may be one of the most important things you'll ever do."

Any physician who would like an informational brochure produced by the Institute of Certified Financial Planners may call the Iowa Medical Society (515/223-1401 or 800/422-3070). This folder contains material on what a financial planner does and what credentials he possesses.



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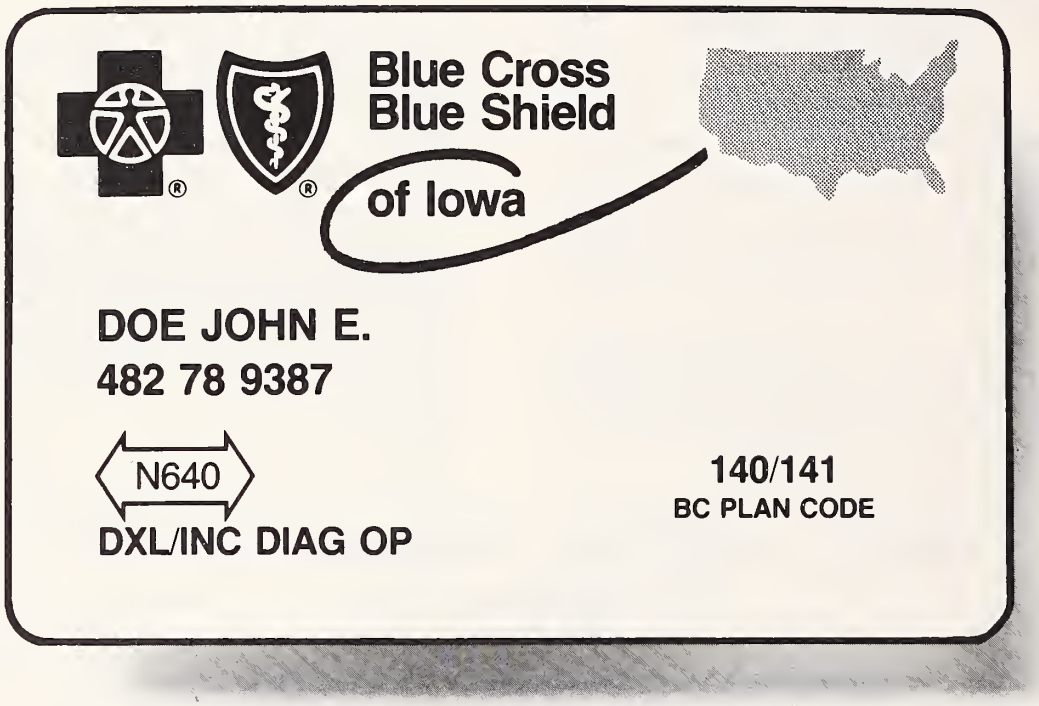
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OUR MAN ON EDUCATION

RICHARD M. CAPLAN, M.D.

LAUGHABLE COSTS ARE NO LONGER LAUGHABLE

I WONDER if you saw the same advertisement I did. It was on the inside cover of the very first issue of the JOURNAL OF THE AMA, dated July 14, 1883. In celebrating its centennial, the editors of JAMA reprinted that issue exactly as it had appeared 100 years before. The little advertisement appeared just inside the cover along with ads from sanitaria and several other medical schools, including "The Woman's Medical College of Chicago." Imagine, the medical department of the State University of Iowa at that time was advertising for students! I don't know how many decades it has been since that practice was abandoned, although advertising continues for continuing medical education. Those seeking further information were invited to write the Dean (W. F. Peck) at Davenport, Iowa (no street address was given nor was apparently needed). That was back in the good old pre-Flexner days before medical schools tended to have full time faculties in residence.

But what a surprise that the session for 1883-84 "begins in the eloquent new building on October 3 and continues for five months." Yes, that's right, the entire course of instruction lasted five months, and there was no internship or residency after that. And most astounding of all in that brief advertisement were the fees: the general ticket was $20, the matriculation ticket $5, the demonstrator's ticket $10, the examination fee $25, the hospital ticket $3, and board was available from $2.50 to $5.00 per week.

Consider the stupendous contrast between the medical education process then and now — its complexity, dependence on patient care activities, large faculties, relationship to the entire intricate apparatus of biomedical science, and the large requirement for linkage to modern hospitals, offices, communications and transportation systems — all of that was non-existent a century ago.

The costs of going to medical school then, even if one doesn't know just how high they are today, must surely seem laughably small. Even when one considers the far greater buying power of the 1883 dollar, it is still a laughable difference. And that leads me to my real point. Because of the increases in both base costs and inflation, and the serious recent diminution of federal support for students, there is a great need now for help from the private sector. The almost universal phenomenon of medical students accumulating debt by the end of their schooling, and the sometimes astronomical amount of that debt, make a real crunch for a great number of students.

In the 1982-83 school year 86% of the students enrolled in the College of Medicine received financial aid known to the school (that is, not counting private gifts or loans like Daddy might make). And of that number who applied to the school for aid, 52% of the student body were determined, by stringent criteria, to have financial need. Even an unmarried student who needed total help through all four years would at graduation have a debt to repay averaging $40,000, not including interest. For a married student with children, the problem is even worse.

If, as I hope, you feel sympathetic toward this problem and would like to make an exceedingly helpful contribution toward student loan funds, there are many ways to do it. Especially appropriate, though, for members of the Iowa Medical Society would be to contribute to the George Scanlon fund of the Iowa Medical Foundation and indicate that the money should enter the medical student revolving loan fund. That fund has been very important among the sources of revenue used to supply student aid at The University of Iowa College of Medicine. It needs and justifies your support.

Dr. Caplan is Associate Dean for Continuing Medical Education at The University of Iowa College of Medicine.

DRUG THERAPY REVIEW

UNIVERSITY OF IOWA HOSPITALS AND CLINICS

ROBERT J. ROBERTS, M.D., Editor

ACYCLOVIR

Acyclovir [9-(2-hydroxymethyl) guanine] (Zovirax™) is a relatively new antiviral agent which has specific activity against herpesviruses and little effect on host cells. This minimal host toxicity offers potential advantages over other antiviral agents, such as vidarabine, which have serious side effects. Currently acyclovir is used for the treatment of a variety of herpesvirus infections including mucocutaneous *herpes simplex* in the immunocompromised host, genital *herpes simplex,* and *herpes zoster* in nonimmunocompromised patients. There are also 2 national collaborative studies in progress comparing vidarabine with acyclovir in *herpes simplex* infections in the newborn and in *herpes simplex* encephalitis.

PHARMACOLOGY/MECHANISM

Acyclovir acts by selectively utilizing viral thymidine kinase which converts it to a monophosphate compound; it is then converted into di- and triphosphates by cellular enzymes.[1] The resulting nucleotide analog is then incorporated into viral DNA, which results in inhibition and inactivation of viral DNA polymerase. Host-cell DNA polymerase is not inactivated.[1]

Because the above activities are selective for herpesviruses, they provide for specific antiviral chemotherapy with minimal toxic side effects to the patient. The spectrum of antiviral activity of acyclovir includes *herpes simplex* 1 and 2 and *varicella-zoster* virus.[1] At this time, results show that activity against Epstein-Barr virus and cytomegalovirus is not significant.

PHARMACOKINETICS

Acyclovir is eliminated by both glomerular filtration and tubular secretion.[2] Its clearance is therefore greater than that of creatinine. Sixty-five percent of a dose is excreted unchanged in urine, 2% is metabolized in the liver and subsequently excreted in the GI tract. Trace amounts are excreted through the lungs. The major metabolite is 9-carboxymethoxymethylguanine.[2]

The elimination pattern follows a linear dose-independent 2-compartment open model.[2, 3] The elimination half-life is 3 to 4 hours. There is no apparent accumulation of the drug with repeated dosing, and peak concentrations in serum are proportional to dose.[3] When used in settings of renal failure, the half-life is prolonged to about 20 hours and a dosage adjustment is recommended. Acyclovir is dialyzable with an extraction coefficient of 0.44.[2]

Plasma protein binding occurs with 9 to 22% of the drug. At this level other protein-bound drugs in plasma should not be significantly altered.[2]

The CSF to plasma concentration is about 0.5 allowing for good CNS penetration.[2]

The usual dosing schedule is 5 to 15 mg/kg/dose IV or po given every 8 hours.[2, 3]

CLINICAL TRIALS AND EXPERIENCE

Acyclovir has been used in a variety of clinical settings involving herpesvirus infections.

Use in immunocompromised patients (primary immunodeficiency, malignancy, transplant) with cutaneous *herpes simplex* infections has resulted in a significant decrease in viral shedding.[4, 5] Clinical improvement (pain,

This information for Iowa physicians is furnished and sponsored by the University of Iowa Hospitals and Clinics.

scabbing) also occurs but depends on the underlying illness.[4] When the underlying disease is controlled, time to healing of lesions is not significantly altered by treatment with acyclovir.[4] Previous use of steroids, lymphocyte count, and age of patient do not influence treatment outcome.[4] Patients with neutrophil counts greater than 1,000 appear to be at increased risk for pain and scabbing in both acyclovir and control groups.[4] Recurrence of the infection is not altered by acyclovir treatment.[5]

There is a significant effect on viral shedding in nonimmunocompromised patients being treated with acyclovir for *herpes zoster* infections.[6, 7] However, clinical improvement in pain is confined to patients over 68 years of age or to patients who have had fever longer than 2 days prior to treatment or pain less than 3 days prior to treatment.[6] Clinical improvement outside of these groups is not observed. At one month follow-up, postherpetic neuralgia is the same in both treatment and control groups.[6] Three-month follow-up showed an increase in the acyclovir treated group.[6]

Use of acyclovir in neonates for *herpes simplex* infections has had limited experience to date. In one series of 5 neonates with *herpes simplex* infections, the best outcome appeared to occur when patients were treated soon after symptoms present (1 to 2 days).[8] Delayed treatment was associated with significant neurologic sequelae such as major psychomotor deficits, developmental delay, and refractory seizures.[8]

Studies of acyclovir in primary genital infections have shown significant reduction in viral shedding. With topical treatment, symptoms of pain and itching and duration of time to healing are significantly reduced in acyclovir treated patients (pain — 5 vs 7 days, itching — 4 vs 8 days, healing — 11 vs 15 days.)[9] Initial studies with oral therapy show statistically significant improvement in clinical symptoms but the difference is approximately one day for pain and duration of symptoms (pain — 3 vs 4 days, duration — 4 vs 5 days).

Treatment of recurrent infections with oral or topical acyclovir shows reduction in viral shedding and clinical improvement in males only.[9, 10] Although statistically significant, duration of clinical symptoms in acyclovir-treated patients is 1 to 2 days less (topical treatment: pain — 2 vs 3 days, healing — 8 vs 10 days;[9] oral treatment: pain — no difference, healing — 5 vs 7 days[10]).

Acyclovir has been used for *herpes simplex* eye infections and recurrent *herpes labialis* without demonstrable benefit. Use in nonherpesvirus viral infections to date has shown no obvious benefit of acyclovir therapy.

SIDE EFFECTS

Transient renal dysfunction has been observed when acyclovir is given as a bolus intravenous injection.[2] When given over one hour or more this side effect is not observed.[2] Agitation and lethargy have also been observed in one small series of case reports.[11]

COST

One 500 mg vial costs about $20. A 15 gm tube of ointment also costs about $20.

DISCUSSION

Biochemically, acyclovir would appear to be a therapeutic "silver bullet" which is specific for herpesviruses and has low toxicity to the host. In nearly all studies of herpesvirus infections, viral shedding is significantly reduced by treatment with acyclovir.

Clinical improvement in patients treated with acyclovir may not always parallel reduction in viral shedding. Improvement in immunocompromised patients is influenced by nature of underlying diseases. Patients with *herpes zoster* infections are clinically benefitted if they are in certain clinical subgroups. Risk for recurrence and postherpetic neuralgia are not altered with acyclovir treatment. Individuals with primary genital herpes infections do experience some clinical improvement but, as stated, in specific areas the differences are 1 to 2 days' duration. Clinical symptoms in recurrent genital *herpes simplex* infections are confined to male patients only and again differences, although significant, are approximately 1 day's duration. Possible explanations for the disparity of reduction in viral shedding and clinical symptoms are that (1) the nature of herpesvirus infections includes a wide spectrum of clinical courses including spontaneous remission, and (2) the morbidity of herpesvirus infections may be due to tissue damage initiated by the presence of virus and once started, presence of virus is unnecessary for clinical

(Please turn to page 514)

symptoms. Specific antiviral therapy with acyclovir will reduce viral shedding and consequently infectious potential. This may have minimal if any impact on tissue damage events. — Matthew Knight, M.D., Fellow, Clinical Pharmacology/Ambulatory Pediatrics, and Richard Andersen, M.D., Assistant Professor of Pediatrics, Division of Infectious Disease.

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CONTRAINDICATIONS: Hypersensitivity to any of the components, concurrent MAO inhibitor therapy, severe hypertension, bronchial asthma, coronary artery disease, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction. Do not use in children under 12 years.

Do not use this drug in patients with narrow-angle glaucoma, obstructive or paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. Do not use in nursing mothers.

Use in treating lower respiratory tract symptoms, including asthma, is contraindicated.

WARNINGS: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients. Patients should also be warned about the possible additive effects of alcohol and other CNS depressants.

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Respiratory System: Thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

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STATE DEPARTMENT/ PUBLIC HEALTH

A COMMITMENT TO SERVING NEED

These comments are excerpted from an address given by Iowa Commissioner of Health Norman Pawlewski to the Iowa Business and Labor Coalition on Health Care.

DURING THE past 5 years the Iowa State Department of Health has taken part in many painful cost-containment projects. Some have been voluntary. Some — such as budget cuts — have not. With each we have had to carefully consider our priorities and the long-term effects of reductions.

Many of the reforms in health care finance and public programs have been overdue. Payments and benefits speak loudly about how much is spent — where and for what.

We see a great deal of promise in alternative delivery systems, peer utilization review and prospective payments. However, our excitement cannot blind us to other priorities — namely availability and access to care. Unless *all* Iowans get needed health care, we will be neglecting important social responsibility and jeopardizing Iowa's chances for long-term economic growth.

The involvement of the State Health Department, and public health in general, as regards access to care, has developed gradually. One hundred years ago the first great public health era occurred with improvements in nutrition, water purity, sanitation and increasing knowledge about the spread of infectious disease. This produced dramatic reductions in illness and death. We have specific cures for so many diseases now it is easy to overlook the achievements of those years. The enthusiasm for public health was *tremendous*. In 1882 a proposal was introduced in Congress to establish ". . . a national museum of hygiene which shall exhibit the history and progress of sanitary science by a collection of publications, articles, models, drawings, etc., illustrating defects and improvements in foods, water supplies, bedding, clothing, house and hospital construction, furniture, apparatus for heating, lighting, ventilation, removal of excretia and refuse, culinary, laundry and bath facilities, facilities for physical culture and exercise (then, too!), and whatever else tends to the preservation of health and the prevention of disease." Fortunately, moderation set in — otherwise we might have today a museum with a wing devoted to the evolution of the mattress.

PROGRESS MADE

In the years since then, advances in medical science and health care services have made it necessary for Iowa to become concerned with people's access to specific services, in addition to education about health. This responsibility has been carried out in a variety of ways, including the direct provision of vaccines and the detection of communicable disease. Some services were short-lived. In 1902, the Iowa Board of Health had to review the safety of gasoline lamps, passing judgement on such items as the twentieth century marvel in lighting — LITTLE WONDER NO. 20. And the ROCKFORD X-RAY. More recently, the Department has been extensively involved in monitoring laser and *genuine* X-ray equipment; the provision of maternal and child health services and funding specialized services to developmentally-disabled children.

Throughout my tenure as Commissioner of Public Health we have followed a philosophy of seeking *better* public health *first* through technical and financial assistance. We have become involved directly *only* where there are compelling reasons of economy or effectiveness — such as our massive rubella program in 1970. The greater part of our work, however, is

This information on public health matters is furnished and sponsored by the Iowa State Department of Health.

monitoring, assessing and advising on matters affecting the public health. It is for this reason that I am worried about *access to service in Iowa today*, and more importantly, in the years ahead.

The current depression of business activity in the farm economy has been the cause of *many deep cuts* in public programs. Health programs have *not* been immune. In fact, because programs such as Medicaid have caused the greatest recent increases in public budgets, they have received the most vigorous attention from those who seek to reduce federal and state spending in nearly all social programs. These people have pressed very hard for cuts in funding and elimination of many programs.

I recognize there are economies which can — and must be — made in funding social programs. There is, however, a danger we will lose the gains we have made in improving the health and general welfare of our people unless changes are carefully planned. The DES MOINES REGISTER recently said that we had reattained the poverty level that existed in 1965. The Children's Defense Fund reports 725,000 people lost services or community health centers in 1982 because of reductions in federal funding to 239 centers. The Chicago Health Systems Agency predicts the additional reduction of $300 million proposed for the Illinois Medicaid program will have a catastrophic effect on Chicago's urban hospitals and 630,000 Medicaid recipients.

In Iowa, my staff has estimated that 139,000 people — 4.8% of Iowa's population — are *below the poverty level* and are *not* eligible for Medicaid. The current poverty threshold is $405 a month for an individual — not an amount conducive to many visits to a doctor. *Without Medicaid there are few resources available to a poor individual — and these are diminishing!* County and city hospitals are being pushed to the limit! Many non-profit hospitals have fulfilled their obligation to provide uncompensated care under their Hill-Burton (1947) agreement. Others are only a year or two away from ending this program.

INTELLIGENT DISCUSSION

In Iowa, we are fortunate the discussion of social and economic issues has not deteriorated into a dog-fight. It has been balanced. I attribute this to good communications between government and business; to the views of Iowa businessmen that they are part of a larger community, and to the moderate, farsighted responses of providers and public officials. No one has pressed for narrow, one-sided solutions. While there has been strong advocacy, the voices have not been strident to the point of eliminating decent discussion. We have not always noted such balance at the national level. At times it appears some are pursuing cost-containment at any price. And, incredibly, there is a growing tendency to blame the victims for their misfortunes! And to rationalize current failings in the most unbelievable ways!

A recent report from the National Center for Policy Analysis commented that the poor receive so much of their medical care in hospital emergency rooms and outpatient clinics. It said: "Some of these facilities have a very impersonal atmosphere and their personnel do not always show the respect for a patient's dignity that one expects when visiting a conventional physician in his office. But the other side of the coin is the fact that the staff of hospital emergency rooms in inner city neighborhoods tend to be expert — from long and repeated experience — in caring for the needs of victims of the violence which is endemic in many inner city areas. A patient wounded by a bullet or knife slash is much more likely to be cared for properly in, say, the emergency room of New York's Harlem Hospital or Chicago's Cook County Hospital, than if that patient went to a suburban family physician or internist who may never see a bullet or knife wound for an entire year."

Beyond commenting that knife and bullet wounds are not the most common health problems faced by the poor, I would say only that getting primary care in an emergency room is about as cost-effective as using the space shuttle to deliver the morning milk.

Elsewhere, this same report notes that the poorest Americans spend about twice as many days in the hospital as the most affluent. They comment that even taking into account that poor people tend to be sicker than rich, the poor are receiving a lot of health care. Of course, when you realize that nearly one-quarter of the poor are elderly, who *legitimately* spend from 3 to 10 times as many days in the hospital as other age groups, the differences are not so impressive.

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STATE DEPARTMENT/PUBLIC HEALTH

(Continued from page 517)

The "body-politic" is under extreme stress these days, and like the human body, it can react in strange ways. We have to be continually vigilant to avoid an *erosion of the progress* which has been made over so many years. In some ways, the current discussion over the wisdom of social and health programs is a mild version of a debate which occurred exactly 100 years ago.

CUE FROM THE PAST

At that time, there was a loose body of theory which went by the name of Social Darwinism. Taking their cue from the phrase "survival of the fittest," the proponents of Social Darwinism developed an elaborate rationale for low pay, long hours and few public services. At the 1882 meeting the president of the American Public Health Association had these thoughts:

"I have no patience with the cold cruelty of semi-science which calmly contemplates the preventable sickness and death, and hails these as weeding and pruning process by which to make the race better and stronger. If only the weak and puny were taken away there might be a cold-blooded force in such reasoning, but we find the strong and vigorous smitten down — along with the weak and helpless. It is not reserved for human wisdom to decide who shall live and who must die *in order to subserve the highest interests of the race. Preventable sickness unprevented is a crime against society;* preventable *death* not prevented *is a crime against God."*

It is safe to say that the American Public Health Association hasn't heard an address like that in a long, long time. Except for some of the language, this message is remarkably contemporary.

I would re-emphasize the point I made when I began: if we allow a group of our population to slip into a state of chronic ill health; if we deny them access to basic services for very long, their needs and demands on public services and funds will *increase* rather than decrease. The working-age population that is denied access to health care will become less productive. If we *systematically* deny access to health care to *any part of our people* they will move closer and closer to becoming a *permanent* "underclass" and a *permanent drain on our economy*. On the other hand, reasonable commitment to social programs and access to health care will have a positive, long-term effect on the economy, and thus on business.

Health, according to the World Health Organization, is: *the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.*

And public health is: *the science and art of preventing disease, prolonging life and promoting physical and mental efficiency through organized community efforts.* The people of the Iowa State Department of Health are committed to the realization of these definitions for *ALL* of Iowa's people. As we participate in the efforts to "downsize the system," "alter methods and patterns of delivery," introduce new "payment mechanisms," indulge all the other buzz words which have so jargonized the "cost containment" movement, we at ISDH *must not* . . . we *CANNOT* forget the objectives clearly stated in these definitions. That is our duty! Not to groups or factions; to *ALL* the people of Iowa.

If we can, let us do it cheaper with less waste, but let us continue to do it well.



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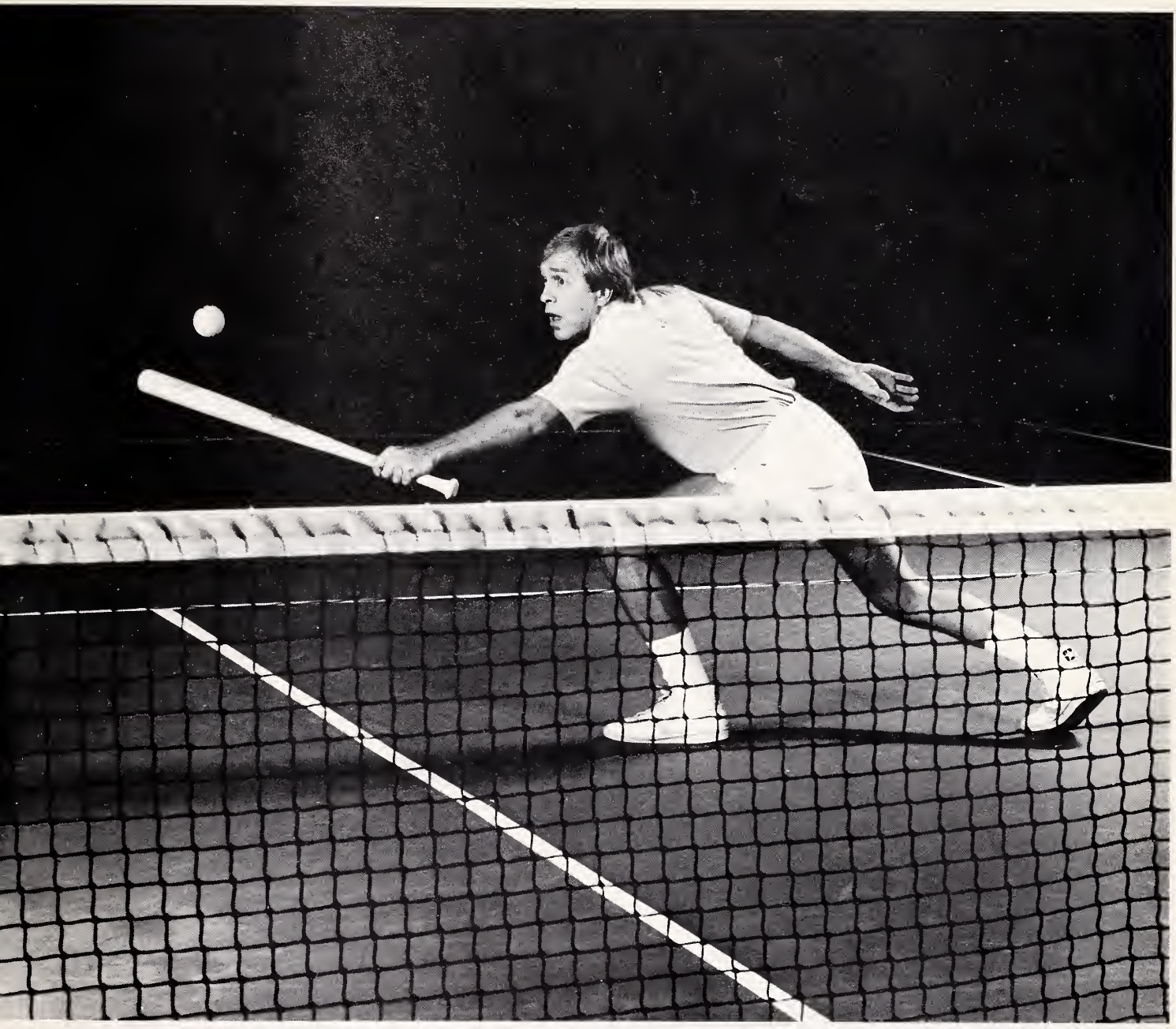
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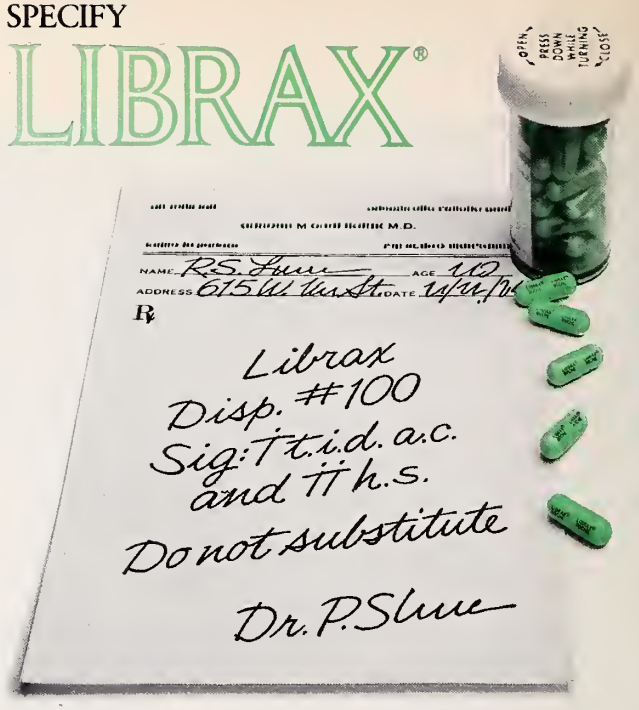
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October 1983 Morbidity Report

Disease	Oct. 1983 Total	1983 to Date	1982 to Date	Most Oct. Cases Reported From These Counties
Amebiasis	1	34	67	Baane
Brucellasis	1	4	5	Tama
Chickenpox	69	5613	6050	Scattered
Campylabacter	27	316	288	Scattered
Cytamegalovirus	0	11	38	
Eatan's Agent infection	5	107	232	Black Hawk, Clintan, Jahnsan, Polk, Scatt
Encephalitis, viral	4	54	42	Clinton, Wayne
Erythema infectiasum	0	25	247	
Gastraenteritis (GIV)	937	10297	9816	Scattered
Giardiasis	50	254	142	Scattered
Hepatitis, A	3	24	73	Black Hawk, Dubuque, Tama
Hepatitis, B	9	72	78	Scattered
Hepatitis, Nan A-B	5	38	16	Scattered
Hepatitis type unspecified	2	12	27	Guthrie, Woadbury
Herpes Simplex	78	848	391	Scattered
Herpes Zaster	0	6	10	
Histoplasmosis	0	15	15	
Infectiaus monanucleosis	14	157	166	Scattered
Influenza, lab confirmed	0	207	74	
Influenza-like illness (URI)	3112	33409	34132	Scattered
Legionellosis	0	6	21	
Malaria	0	3	7	
Meningitis				
aseptic	23	136	75	Scattered
bacterial	11	135	138	Scattered
meningacaccal	3	18	12	Dubuque, Mills, Scott
Mumps	6	44	34	Scattered
Pertussis	0	6	8	
Rabies in animals	13	182	347	Scattered
Reye Syndrome	0	2	5	
Rheumatic Fever	1	2	3	Tama
Racky Mauntain Fever	0	0	0	
Rubella (German measles)	0	0	0	
Measles	0	0	0	
Salmanellosis	45	300	278	Scattered
Shigellosis	17	58	59	Scattered
Toxic Shock Syndrome	0	15	16	
Tuberculosis				
total ill	5	60	66	Scattered
bact. pas.	3	42	49	Harrison, Jefferson, Wapella
Typhoid Fever	0	0	0	
Venereal diseases:				
Gonorrhea	366	3841	3950	Scattered
Syphilis	2	21	27	Polk

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Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

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Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

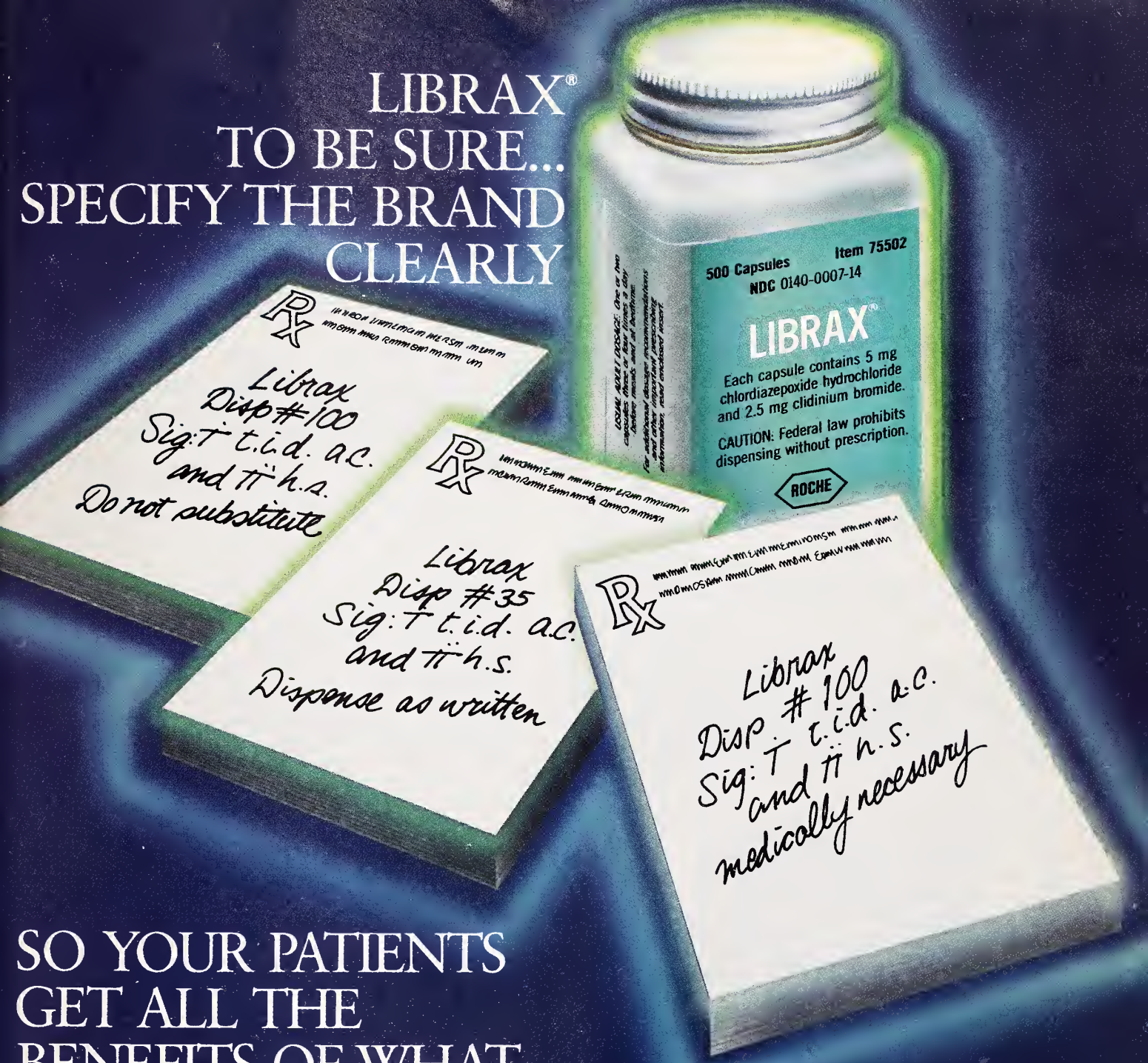
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Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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ABOUT IOWA PHYSICIANS

Dr. Gregg W. Calderwood and his wife, **Dr. Laura V. Calderwood,** recently began medical practice in Burlington. Dr. Gregg Calderwood is associated with **Dr. Carl H. Hays** and **Dr. Matthew W. Anderson** in the practice of obstetrics and gynecology. Dr. Laura Calderwood is a psychiatrist. Both received their M.D. degrees and completed their residencies at the U. of I.

Dr. Paul E. Ruggle recently joined the Newton Clinic. Dr. Ruggle received the M.D. degree at the U. of I. and completed a family practice residency at Broadlawns Medical Center in Des Moines. . . . **Dr. Tim Mead** recently joined the Park Clinic staff in Mason City. Dr. Mead received the M.D. degree at Wayne State University Medical School and completed an orthopedic surgery residency at St. Mary's Hospital in Grand Rapids, Michigan.

Dr. David H. Rice recently joined the staff at Fort Madison Community Hospital. Dr. Rice received the M.D. degree at the University of Kansas School of Medicine at Kansas City and completed his radiology residency at the Mayo Clinic in Rochester, Minnesota. . . . **Dr. Duane C. Whitaker,** Iowa City, recently was appointed an assistant professor in the Department of Dermatology at the U. of I. College of Medicine. Dr. Whitaker received the M.D. degree at the University of Arizona; interned at Good Samaritan Hospital in Phoenix, Arizona and completed his dermatology residency at the U. of I. . . . **Dr. Bruce Stayton** recently joined the Audubon Medical Clinic. Dr. Stayton received the M.D. degree at St. Louis

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University School of Medicine in St. Louis, Missouri; and completed his family practice residency at St. Francis Hospital Medical Center in Peoria, Illinois. . . . **Dr. Tom Garland** recently began family practice in Bellevue. Dr. Garland received his medical education at Manila's University of Santo Tomas in the Philippine Islands and the University of Wisconsin in Madison; interned and completed his family practice residency at Deaconess Hospital in Milwaukee, Wisconsin. . . . **Dr. Arnis B. Grundberg,** Des Moines, recently was named to the Board of Directors of Flapjack Foods International Inc., Eden Prairie, Minnesota.

Dr. Dennis Nugent, Hartley, recently was honored by the Community Memorial Hospital for 15 years of surgical service to the community. Dr. Nugent received the M.D. degree at the U. of I. and served his surgery residency at Hurley Hospital in Flint, Michigan. He located in Hartley in 1968. . . . **Dr. Bhankasame Kichanantha** and his wife, **Dr. Nongyao Kichanantha,** recently opened an office in Brooklyn. **Dr. Opas Jutabha** and **Dr. Puangtong P. Jutabha,** Sigourney physicians, are

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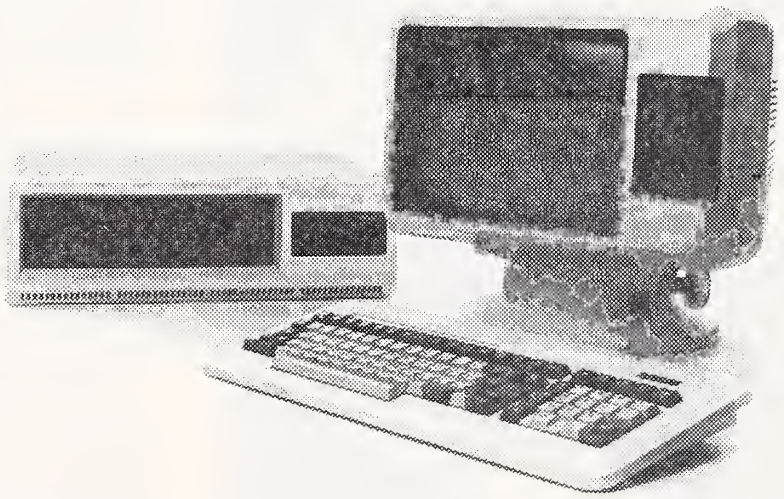
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sponsoring the new practice. Both doctors received their medical education at Chulalongkorn Hospital School in Bangkok, Thailand, and have taken postgraduate training in the United States. Dr. B. Kichanantha is a diplomate of the American Board of Surgery; member of the Royal College of Surgeons of Thailand and a fellow of the American College of Surgeons. Dr. N. Kichanantha is a diplomate of the American Board of Pediatrics. . . . **Dr. Ronald A. Vidal** recently joined the staff at Medical Associates in Clinton. Dr. Vidal received the M.D. degree at the State University of New York, Buffalo School of Medicine; served his general surgery residency and otolaryngology residency at the same facility and at Millard Fillmore Hospital in Buffalo. . . . **Dr. Renald Bernard** recently began medical practice in Webster City. Dr. Bernard received his medical education at St. Anne's College in Nova Scotia and Laval University and interned in Quebec City. Prior to locating in the United States, Dr. Bernard practiced in St. George de Beauce in Quebec, Canada.

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Dr. Gene K. Van Zee, Pella, recently celebrated 25 years in medical practice there. Dr. Van Zee received the M.D. degree at the U. of I. and interned at the naval hospital in Pensacola, Florida. He returned to his hometown to practice in 1958. . . . **Dr. Merlin U. Broers,** Schleswig, recently was installed as president of the Iowa Chapter, American Academy of Family Physicians. **Dr. Harmon Holverson,** president-elect of the AAFP, presided at the installation. . . . **Dr. L. W. Swanson,** Mason City, has left private medical practice to join the Department of Development at St. Joseph Mercy Hospital in Mason City. Dr. Swanson received the M.D. degree and completed his internal medicine residency at the U. of I. He began medical practice in Mason City in 1942.

DEATHS

Dr. L. K. Shepherd, 70, Des Moines, died October 11 at Iowa Lutheran Hospital in Des Moines. Dr. Shepherd received the M.D. degree at the U. of I. College of Medicine. He was a past president of the Polk County Medical Society and a World War II veteran.

Dr. R. A. Smith, 74, Albia, died September 27. Dr. Smith received the M.D. degree at the University of Illinois School of Medicine. He began medical practice in Albia in 1935.

Dr. Ralph Riegleman, 71, Sun City, Arizona, died October 21 at a Sun City hospital. Dr. Riegleman received the M.D. degree at the U. of I. College of Medicine. He practiced medicine in Des Moines for more than 30 years. He was a veteran of World War II and a retired colonel in the Air Force Reserve.

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In The Public Interest

Asking About Care Costs!

ONE INTERESTING PARADOX in contemporary times has to do with public perception over costs of health care and medicine. In a 1983 national measurement of citizen opinion, undertaken by the American Medical Association, 65% of the respondents (the highest percentage in five years of asking the question) said that cost is the main health care problem in the United States today.

Interestingly, however, and here is the paradox, only 20% of the respondents said they ever discuss fees ahead of time with their doctor.

Why do people choose not to talk with the doctor up front about charges? We do when we buy a refrigerator, television set, and most other products or services.

Any of several reasons, all perhaps interrelated, are possible:

- *Few persons want cost considerations to affect their actual use of care at the individual level.*
- *Most persons have a good percent of cost for any significant medical need covered by a third-party (insurance or government), and this reduces the element of cost as a matter of personal consequence.*
- *Patients are either shy, apprehensive or reluctant to say, "What's this going to cost, doc?" Maybe, in many minds, such a question is one they think somehow will offend the physician and have some kind of negative effect on the relationship.*

The medical profession, through ongoing education activity, has encouraged patients to inquire about the cost of any particular medical service. Some physician offices and clinics display signs stating their willingness to discuss fees.

This idea of physicians' supplying fee information needs continued emphasis. Interested patients have a right to know what a particular procedure will cost. And they should be made to feel comfortable in asking for this information. Physicians need to assure there is an opportunity to cover the subject — if, as the 1983 poll indicates, the public concern over costs is as high as it is.

This national 1983 finding of 65% who say cost is the main issue facing health care and medicine compares with an even higher response from an Iowa survey in late-1982. In Iowa, 69% of those answering said it is the main issue.

The attitude of the public as to how much money should be spent on health care is interesting. Of those asked, 53% said society is not spending enough on health care; this compares with the following "not enough" spending responses in other areas: education (64%), financial support for the elderly (71%), financial assistance for the needy (52%), retraining the unemployed (58%) and environmental protection (57%). The analysis of this question, as asked over a several-year period, shows a public perception against any further increases in the percent (9.8%) of gross national product going to health.

The current public view on medical manpower is likewise interesting. More than half (55%) of the respondents said their communities have about the right number of doctors at this time. Twenty-nine percent said they have too few doctors, and 12% said they have too many doctors. What is pointed to as being consequential here is the 9-point drop between 1982 (38%) and 1983 (29%) in those who said there are too few doctors serving them. Opinion on the manpower topic differs quite widely — both within segments of the general public and the medical profession itself.

In asking patients about level of satisfaction derived from the last visit to a physician, 89% said it was good overall. Responses of either *very* or *fairly satisfied* came in these percentages when asked about: (1) medical care received — 90%; (2) way doctor's staff treated you — 89%; (3) appointment waiting time — 84%; (4) doctor's explanation — 84%, and (5) time you had to wait in the office — 71%.

These satisfactory reporting trends have been very stable since 1978. However, 1983 does show a uniform drop of several percentage points in each of these subject areas over the preceding year. This warrants attention by Iowa physicians.

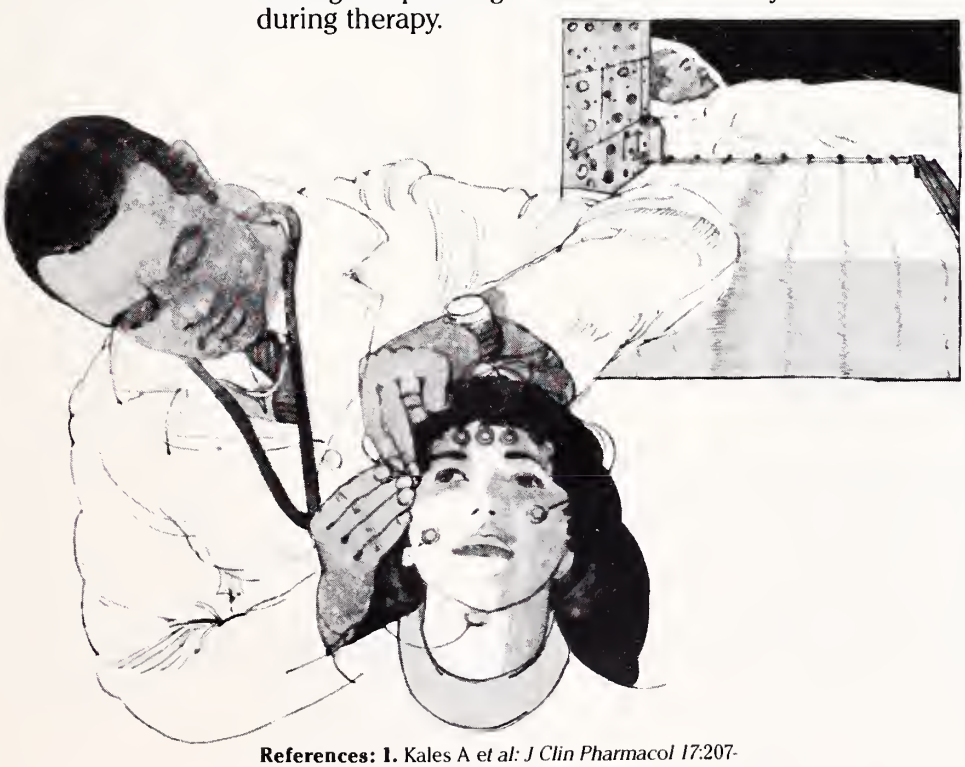
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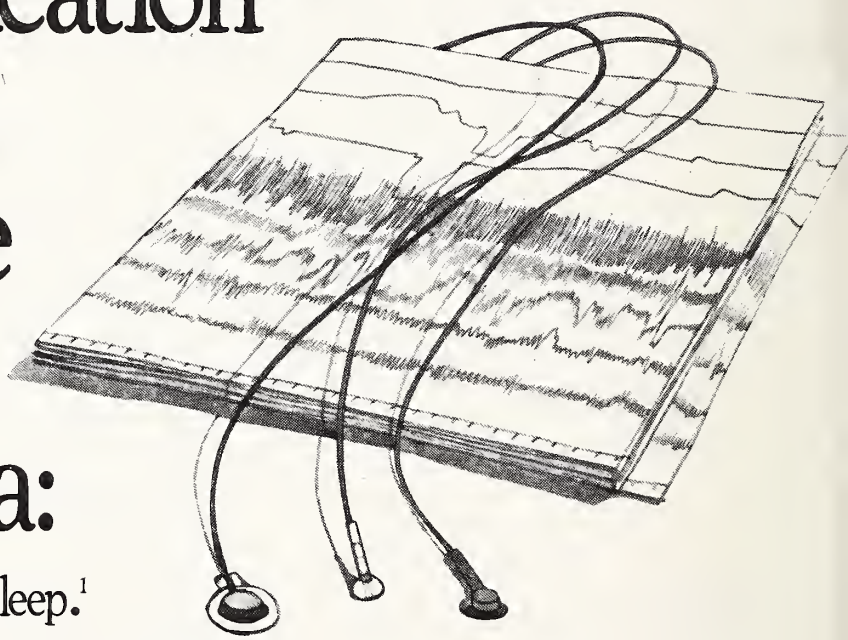
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